Towards a greater understanding of why child care teachers leave: Examining job resources, job demands, well-being, turnover intention, and turnover among lead and assistant teachers in a Swiss community

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Abstract

The early care and education sector as well as the child care workforce have doubled during the past 15 years in Switzerland. The international body of research on this profession shows that child care teachers' health, working conditions, and working environments are relatively poor and that pay is low. However, child care teachers usually report high levels of job satisfaction. Nonetheless, a high percentage of child care teachers does not proceed with their chosen career in early care and education – ending a career that had once appeared desirable to them. Moreover, child care teachers' turnover jeopardizes care quality. Therefore, this thesis aims at answering the question of why child care teachers choose to stay in their profession and why they choose to leave by investigating job resources, job demands, burnout, and turnover intention that have all been associated with retention and turnover – drawing on the Job Demands-Resources model and the concept of the Six Areas of Worklife.

The four studies presented here use 488 assessments of lead teachers, 591 assessments of assistant teachers, and 59 assessments of their directors collected in a first survey and 273 assessments collected in a second survey. The surveys took place in 202 child care centers in a Swiss municipality over the course of three years. The studies employ descriptive and interferential analyses as well as content analysis to explore the data.

The analyses of the data showed that reported job demands and job resources were mainly associated with structural characteristics of the facility indicating professionalism with some variation for job title. Furthermore, lead teachers' experienced burnout symptoms were closely associated with perceived control, pay satisfaction, and the workload on the child care center level. However, the association between reported job demands and turnover intention mediated by burnout was weaker than the association between reported job resources and

turnover intention mediated by job satisfaction. Moreover, the wish to quit at the baseline predicted actual turnover three years later. Reasons given for staying in the profession included the team, the children, enjoyment of the work, and a professional workplace. Among the reasons given for leaving the job were unprofessional leadership/management, a lack of advancement, and personal reasons. Finally, reasons given for leaving the profession included the working conditions and low wages, unprofessional leadership/management, stress and strain, and motherhood. Overall, the findings imply that child care teachers are primarily motivated by intrinsic rewards (the children, the team, job satisfaction), while a lack of extrinsic rewards (working conditions and wages, unprofessional leadership/management, lack of advancement) drives them out of the job and profession. The findings of the four studies combined with the international studies suggest that child care work is a profession at the margins.

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"Grass it not growing faster, if you pull it."

African proverb

1. Introduction

Extrafamilial child care has expanded considerably during the past two decades because a growing number of women remains part of the workforce after starting a family – whether voluntarily or out of necessity (Bundesamt für Sozialversicherungen, 2013; Status of Women in the States, 2017). In Switzerland, the number of places available in child care centers have increased by 96% in the past 15 years (Netzwerk Kinderbetreuung & Verband Kinderbetreuung Schweiz (Kibesuisse), 2015). Child care centers are the most popular choice for taking care of and educating children aged from 4 months to 5 years outside the family (Istituto di Microeconomia e Economia Pubblica & INFRAS, 2006). Consequently, the child care workforce has increased significantly, serving a high percentage of young children in industrialized Western countries (Bovolenta, 2013; Mullis, Cornille, Mullis, & Taliano, 2003; Statistisches Bundesamt Deutschland, 2012).

Child care work is a relatively young profession that has been struggling with a lack of recognition and poor financial rewards, as has been characteristic of professions that are considered female since the onset of capitalism (Hackl, Geserick, Hannes, & Kapella, 2015; Federici, 2014; Sumsion, 2007). Moreover, most studies point out that the physical and psychological health of child care teachers is poorer than among professionals in other occupations (Berger et al., n.d.; Jungbauer & Ehlen, 2015; Koch, Stranzinger, Nienhaus, & Kozak, 2015; Løvgren, 2016; Viernickel, Voss, Mauz, Gerstenberg, & Schumann, 2014; Whitaker, Becker, Herman, & Gooze, 2013). Thus, Whitaker et al. (2013) have shown that the health of teaching staff in early care and education is poorer than among women sharing similar

sociodemographic characteristics. Moreover, according to Jungbauer and Ehlen (2015), the stress levels among child care teachers are twice as high as those among the average population and one fifth of the teaching staff is at risk of suffering from burnout. Gratz and Claffey (1996) have demonstrated that the majority of child care teachers reported good or excellent health, but they reported that their health has been declining since working in child care.

The poor health of teaching staff in early care and education may originate from the combination of strenuous labor, including high physical and psychological demands (e.g., Berger et al., n.d.; Curbow, Spratt, Ungaretti, McDonnell, & Breckler, 2000; Jungbauer & Ehlen, 2015; Rudow, 2004; Whitebook, 1999), inadequate working environments and working conditions and low pay (e.g., Bovolenta, 2013; Curbow et al., 2000; Jorde-Bloom, 1988; Kontos & Stremmel, 1988; Mullis et al., 2003; Organisation for Economic Co-operation and Development (OECD), n.d.; Schreyer & Krause, 2016; Whitebook, Phillips, & Howes, 2014). With respect to working environments, researchers refer to workplaces that primarily serve the needs of the children, but are not adequate for adults. Dedicated rooms for breaks and administrative work of teaching staff, adult-sized furniture, and noise protection often lack in child care centers (e.g., Gratz & Claffey, 1996; Khan, 2009; Rudow, 2004; Viernickel et al., 2014). With respect to working conditions, child care work often involves long working hours, insufficient breaks, high child-to-staff ratios etc. (e.g., Koch et al., 2015; Lower & Cassidy, 2007; OECD, n.d.; Shpancer et al., 2008). Fuchs and Trischler (2009) have found that only 8% of child care teachers reported satisfaction with their working conditions and pay in Germany. Moreover, child care teachers´ incomes are low in most countries: in the United States they even earn poverty-level wages (Gambaro, 2012; Schreyer, Krause, Brandl, & Nicko, 2014; Whitebook et al., 2014).

Consequently, a high percentage of the child care teachers do not proceed with their chosen career in early care and education. Estimates of turnover rates are ranging from 18% to 40% across countries (Andersson & Gørtz, 2010; Center for the Childcare Workforce, 2004; Huntsman, 2008; Porter, 2012; Sumsion, 2007). However, turnover rates of the child care workforce in Germany appears to be lower: Viernickel et al. (2014) report an annually turnover rate of ca. 10%. However, this rate only represents one state in Germany and additional estimations are lacking.

Despite the many adversities, studies have also shown that child care teachers report high levels of job satisfaction (Hall-Kenyon, Bullough, MacKay, & Marshall, 2014; Jungbauer & Ehlen, 2015; Kontos & Stremmel, 1988). Rudow (2004) has shown that child care teachers are very satisfied with their work as well as their profession. Researchers explain this apparent paradox through the high intrinsic rewards of child care work, e.g., the nature of the work itself and the children (Fuchs & Trischler, 2009; Hall-Kenyon et al., 2014; Kontos & Stremmel, 1988; Schreyer & Krause, 2016).

While child care teachers' satisfaction will in all likelihood also be beneficial for the children, burnout, turnover intention, and a high turnover of child care teachers, will also affect not only the teachers themselves – which would entirely satisfy the need to advance research in this field –, but the children, too. In institutionalized child care, the basis for the child's development is a secure, trusting relationship between a child and the particular child care teacher (Haug-Schnabel, Bensel, von Stetten, Weber, & Schnabel, 2008; Naumann, 2015). Stressed or burnt-out child care teachers are less responsive to the needs of the children and less able to interact in a nurturing fashion (Curbow et al., 2000). Child care teachers who intend to quit tend to invest less into their work (Balfour & Neff, 1993). Turnover, finally, disrupts the

relationship between child and child care giver. Consequently, burnout, turnover intention, and turnover of teaching staff have been associated with compromised child development (Helburn, 1995; Huntsman, 2008; Love et al., 2003; Whitebook, Phillipsen, & Howes, 1989).

This thesis aims at advancing the current knowledge about the relationships between (perceived) working conditions and working environments, well-being, turnover intention, and turnover among child care teachers by addressing these issues in the child care workforce in the Swiss context. To date, no study exists that has investigated the Swiss child care workforce although its specifics – e.g., scarce public spending, private facilities, vocational education of staff – may add an interesting perspective to the current knowledge about the child care workforce.

1.1. State of research, research gaps, and contribution of this thesis

Compared similar professions such as school teachers or nurses, the body of research about child care teachers is narrow and limited. Moreover, while research focused on children's experiences in early care and education settings is large and comprehensive (e.g., the literature review by Huntsman, 2008; Love et al., 2003), the number of studies about the child care workforce - whereby a healthy, motivated, and qualified workforce is a necessary prerequisite of high care quality and child development - is comparatively limited. For the literature review, this thesis draws on studies published in peer-reviewed journals as well as empirical and study reports. The largest share of available literature is on the workforce in the US and Canada and focuses, in particular, on an exploration of the phenomena of burnout and turnover (c.f. Goelman & Guo, 1998; Manlove, 1993; 1994; Manlove & Guzell, 1997; Torquati, Raikes, & Huddleston-

Casas, 2007; Whitebook & Sakai, 2003). The U.S. and Canadian research takes, for the most part, focuses on the impact of these phenomena on the quality of early childhood services and children's experiences, based on findings that that high turnover rates are associated with lower program quality and, in some studies, with adverse effects on child development. Hence, this research has aimed at improving care quality through improving the working conditions and well-being of child care teachers. The second largest research body pertains to the German child care workforce. The German research line originally stems from an occupational science perspective (e.g., Kliche, 2011; Schreyer & Krause, 2016; Viernickel et al., 2014); many of the studies have been conducted on behalf of the Union of Education and Science (e.g., Fuchs & Trischler, 2009; Rudow, 2004). These studies are primarily descriptive with an emphasis on the strain experienced by teaching staff. The German research is aimed at promoting policies to improve the working conditions and well-being of child care teachers as well as to encourage collective bargaining. A smaller literature body comprises the few studies published in peer-reviews journals that have explored the Australian, Austrian, Danish, Greek, Norwegian, and Swedish child care workforce. While the majority of the studies on the child care workforce draws on small samples (e.g., Kontos & Stremmel, 1988; Manlove, 1994; Rentzou, 2012), a few studies assessed larger sample sizes (e.g., Royer and Moreau, 2015; Løvgren, 2016; Viernickel et al., 2014; Schreyer et al., 2016). Approximately a third of the studies employed an qualitative approach (e.g., Baumgartner, Carson, Apavaloaie, & Tsouloupas, 2009; Hackl et al., 2015). A majority of the studies pertain to specific small municipalities. There are narrative literature reviews on the topics burnout (Goelman & Guo, 1998), well-being (Hall-Kenyon et al., 2014), and turnover (Hale-Jinks, Knopf, & Kemple, 2006). Early care and education systems vary widely across countries and regions with respect to financing (state vs. parents), the education

and the social security system (e.g., length of maternity/paternity leave and thus age of children served), required qualifications for staff (ranging from no required qualification in Ireland to master's degrees in Greece), the development level of the early care and education sector and the profession, etc. (European Commission/EACEA/Eurydice/Eurostat, 2014; Organisation for Economic Co-operation and Development (OECD), 2014; Organisation for Economic Co-operation and Development (OECD), 2016). Therefore, the informative value of the studies need to be put in perspective.

Up to now, far too little attention has been paid to the working experience of child care teachers across different contexts. Therefore, the understanding of the work experience of child care teachers and its associations with personal and structural characteristics is insufficient despite the documented importance of working conditions and environments for the well-being of child care teachers (OECD, n.d., Schreyer & Krause, 2016). While a somewhat larger body of research has examined burnout in different contexts (e.g., Goelman & Guo, 1998; Koch et al., 2015; Løvgren, 2016), to date no single study on child care teachers' burnout exists that has examined higher level, e.g., child care center, correlates of burnout or that has taken the nested structure, i.e., child care teachers in child care centers, into account. However, studies among other professionals have shown that higher level characteristics, e.g., organizational, are associated with burnout levels beyond individual ones (Halbesleben & Leon, 2014). Although turnover rates of child care teachers are high across countries (e.g., OECD, n.d.; Sumsion, 2007) and turnover has presumably a detrimental effect on care quality (Helburn, 1995; Huntsman, 2008; Love et al., 2003; Whitebook et al., 1989), only a few studies have addressed turnover intention and turnover among child care teachers so far. Among those, most studies pertain to the U.S. context and only a few employ a longitudinal approach. As a result, it is still unclear why

child care teachers intend to leave and why they leave the job and the profession – or why they stay – across different contexts. Finally, the differences between the working experience and work-related attitudes and behavior of lead and assistant teachers have received only little scientific attention, even though the child care workforce is split into these two different groups in most countries (European Commission/EACEA/Eurydice/Eurostat, 20141; Organisation for Economic Co-operation and Development (OECD), 2010). Moreover, these studies have yielded inconsistent results (c.f. Bullough, Hall-Kenyon, & MacKay, 2012; Løvgren, 2016).

This thesis aims at addressing these research gaps in four consecutive steps. A first study seeks to contribute to the understanding of the working experience - in terms of perceived job resources and job demands - of child care teachers and its associations with personal and structural, i.e., child care center, characteristics. Based on a literature review, the study summarizes job resources, job demands and their personal and structural correlates in the child care workforce and compares them among lead and assistant teachers. A second study advances the knowledge about child care teachers' burnout by examining the clustering of child care teachers' burnout levels in child care centers and including child care center level characteristics drawing on the AWL (Leiter & Maslach, 2004). This is the first study that takes the nested data structure of child care teachers working in child care centers into account. A third study adds to the current body of knowledge by identifying crucial correlates of turnover intention based on the Job Resources-Demands (JD-R) model (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014). This study uses a large sample and distinguishes between assistant and lead teachers. Concomitantly, this study advances the extant knowledge about the JD-R model and the AWL by examining an additional occupational group based on these approaches. A fourth study expands the knowledge about turnover and retention of child care teachers by assessing turnover

and retention over the course of three years and by exploring the reasons for leaving and staying using qualitative analysis. The four studies investigate the working experience and the work-related phenomena among child care teachers in an as of yet unexplored context, namely, the Swiss one.

A look at the Swiss child care workforce may expand the picture with a valuable perspective because the Swiss early care and education system can be located somewhere in the middle between the European and the U.S. early care and education context: Like in the United States, public subsidies are low and parental contributions are high in Switzerland (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2014); similar to many European countries, teaching in early care and education is a vocational profession – other than in the United States (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010); like in the U.S., there are child care centers that are non-profit as well as for-profit ones in Switzerland but most are privately operated. Meanwhile, in many European countries, most child care centers are run by the public hand (European Commission/EACEA/Eurydice/Eurostat, 2014; Mullis et al., 2003). The section “Early care and education in Switzerland" provides more detailed information on early care and education settings in Switzerland.

1.2 This thesis

Generally, child care teachers appear to be satisfied with their jobs, but appear to face relatively poor working environments, working conditions, and to struggle with poor health. Moreover, the state of research on the child care workforce is fragmented and narrow. To advance the extant knowledge about the child care workforce, this thesis aims at exploring job demands, job resources, burnout, turnover intention, turnover, and retention among child care

teachers in the Swiss context using a large sample and different methods. To pursue these aims, chapter 2 outlines the theoretical background of this thesis. Chapter 3 presents the aim and research questions raised, before chapter 4 describes the methods applied to investigate these questions. Chapter 5 reports the first study that explores job demands and job resources and their personal and structural correlates among lead and assistant teachers. The next chapter, chapter 6, presents the second study that investigates the clustering of burnout symptoms in child care centers and individual and organizational correlates of burnout symptoms of child care teachers. Chapter 7 portrays the third and fourth study: Study 3 explores child care teachers' turnover intention based on the Job Demands-Resources model and study 4 investigates turnover and retention and their reasons of teaching staff 3 years later. In closing, chapter 8 discusses the results of this thesis and highlights its strengths and limitations before drawing a conclusion.

2. Theoretical background

This thesis draws on two different approaches in order to explore the work experience, well-being, and turnover and retention of child care teachers: The *Job Demands-Resources model (JD-R)* (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Taris, 2014) and the *Areas of Worklife (AWL)* by Leiter and Maslach (2004). The models are used to reflect on the relationship between work and worker's health from two perspectives. The approaches represent two different influential traditions in occupational stress models. The JD-R model falls into the tradition of *job design models* and the concept of the Areas of Worklife falls into the tradition of *person-environment-fit models* (*P-E*). Job design models propose that extent and relation of job characteristics, e.g., job security, role clarity, emotional demands, have an influence on workers´ health (Van den Broeck, Ruysseveldt, Vanbelle, & Witte, 2013). Person-environment-fit models, however, postulate that the alignment between individual (person) and job (environment) leads to positive work-related outcomes respectively a misalignment leads to negative work-related outcomes (Caplan & Harrison, 1993; Edwards, 1998; Goštautaitė & Bučiūnienė, 2010).

On the one hand, this chapter provides an overview over the history, development, and theoretical assumptions of the JD-R model and the AWL as well as the constructs explored in this thesis. On the other hand, this chapter outlines how these theoretical approaches can be applied to the child care workforce.

2.1 The Job Demands-Resources Model

The *Job Demands-Resources Model (JD-R)* integrates different influential occupational stress models and psychological theories into a holistic model to outline how working conditions influence workers' health (Demerouti et al., 2001; Schaufeli & Taris, 2014). First, the JD-R model (Demerouti et al., 2001) described the development of burnout; later, an extension of the model also predicted the development of work engagement and associated negative and positive outcomes. The inclusion of positive states reflects the general shift in psychology towards a positive psychology (Luthans & Youssef, 2007; Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014). The JD-R model used here is mainly based on the revised JD-R model conceptualized by Schaufeli and Bakker (2004), but further modified to meet the research interest of this thesis and the specifics of the child care workforce. A great number of cross-sectional and a handful longitudinal studies have lent support to the robustness of the JD-R model for a snapshot as well as for a development over time (Schaufeli & Taris, 2014; Van den Broeck et al., 2013). The empirical studies have shown that the assumptions of the JD-R hold across different occupations, countries, and cultures as well as for different indicators of strain and well-being and many outcomes (Korunka, Kubicek, Schaufeli, & Hoonakker, 2009; Llorens, Bakker, Schaufeli, & Salanova, 2007; Schaufeli & Taris, 2014; Van den Broeck et al., 2013;). The JD-R model belongs to a tradition of occupational stress models that is based on the notion that jobs can be described by job demands and job resources along with the Demands-Control model (DC-M) (Karasek, 1979) and the Effort-Reward Imbalance model (ERI) (Siegrist, 1996). In contrast to the JD-R model, the DC-M and ERI limit the job demands and job resources included.

The main assumption of the JD-R says that job characteristics can be classified into two meaningful categories: *job demands* and *job resources*. Job demands are "those physical, social,

organizational aspects of the job that require sustained physical or mental effort and therefore associated with certain physiological and psychological costs" (Demerouti et al., 2001, p. 501). According to Hockey's (1993) *model of compensatory control* workers need to make additional effort to meet work goals and maintain performance if job demands are high. This effort has physical and psychological costs and may lead to fatigue and irritability (Schaufeli & Taris, 2014). Job demands are not necessarily negative but they may turn into stressors if workers lack adequate resources to recuperate from the demands (Bakker & Demerouti, 2007). Examples of job demands include work pressure, workload, and emotionally demanding interactions with clients (Bakker & Demerouti, 2007; Van den Broeck et al., 2013). *Job resources*, on the other hand, are "those physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development" (Demerouti et al., 2001, p. 501). The inclusion of job resources follows the *notion of health-protecting factors* (Antonovsky, 1987) and *what maintains workers' health against the background of high demands* (Richter & Hacker, 1998). Examples of job resources include autonomy, social support by co-workers, and pay (Bakker & Demerouti, 2007; Van den Broeck et al., 2013). Because the classification into job demands and job resources is somewhat inconsistent throughout the literature (Van den Broeck et al., 2013), Schaufeli and Taris (2014) propose classifying job characteristics according to their value: job demands are job characteristics that are *negatively valued* and job resources are job characteristics that are *positively valued*.

Based on this classification, the JD-R model postulates that job demands and job resources evoke two different psychological processes (Schaufeli & Taris, 2014; Van den Broeck,

Vansteenkiste, De Witte, & Lens, 2008). The *energetic process* (or *health impairment* process) refers to the pathway from job demands mediated through strain, e.g., burnout, to negative outcomes. Sustained excessive demands are likely to overtax the energy of workers and deplete and drain them of energy and lead to strain. Strain, in turn, leads to negative organizational outcomes, e.g., health decline, sick leave, turnover intention (Schaufeli & Taris, 2014). The *motivational process*, on the other hand, refers to the pathway between job resources and positive organizational outcomes, e.g., performance, mediated through well-being (Schaufeli & Taris, 2014). In line with the *effort-recovery theory* (Meijman & Mulder, 1998) the JD-R model assumes that high job resources motivate workers. Besides these two effects, the revised JD-R model postulates, that the job resources also directly reduce the exhaustion associated with job demands (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014). This is based on the observation that the effect of job resources is particularly strong, if the job demands are high, and job demands are closely associated with burnout if job resources are low (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003). Empirical studies have largely supported the two distinct paths and the mediations (Korunka et al., 2009; Schaufeli & Bakker, 2004), even though a handful of studies only found partially mediated pathways (Schaufeli & Taris, 2014).

I expand the JD-R model for this thesis twofold. First, I include antecedents of job demands and job resources drawing on the model which Viernickel et al. (2014) used to investigate German child care teachers. These antecedents are personal and structural characteristics that are hypothesized to shape the job demands and job resources of child care teachers (Viernickel et al., 2014). Personal characteristics are characteristics of the person, e.g., age, working experience, and structural characteristics are features of the child care center, e.g., work space, adequate staffing, that are given; job resources and job demands, however, emerge

during the work and reflect the work experience or work process, e.g., support by co-workers, time pressure, role clarity. This distinction also reflects the classification used in most early childhood research where structural characteristics, e.g., child-to-staff ratios, educational background of teachers, pay, are hypothesized to influence the children's experiences, e.g., interactions between child care teachers and children, in child care (National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network, 2002). Second, I add turnover respectively retention as a consequence of turnover intention because empirical evidence suggests that turnover intention is the single best predictor of actual turnover (e.g., Bothma & Roodt, 2013). Figure 1 depicts the modified *Job Demands-Resources model* used in this thesis.

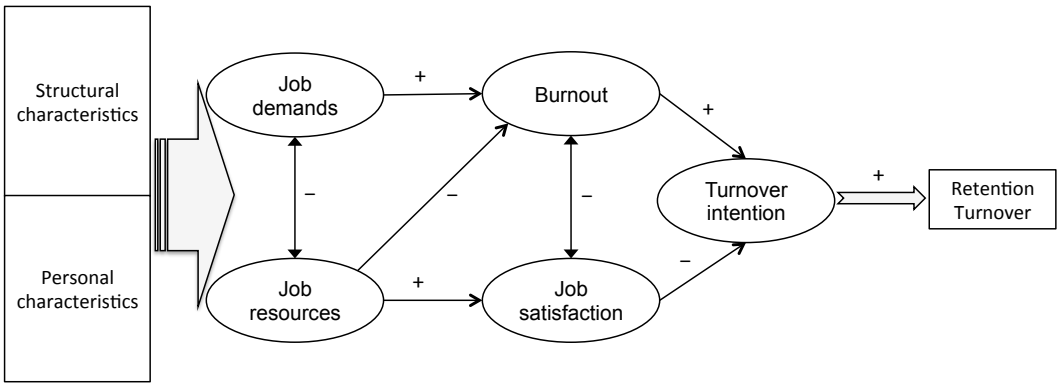

Figure 1: The modified Job Demands-Resources model

2.2 The Job Demands-Resources model in the child care workforce

One of the advantages of the JD-R model compared to its forerunners is that the model includes any possible job demand and job resource in a particular profession (Bakker & Demerouti, 2007; Demerouti et al., 2001). The authors emphasize that the JD-R model is a heuristic framework for thinking about the relationship between work and workers' well-being that is adaptable to every profession (Bakker & Demerouti, 2007; Schaufeli & Taris, 2014). Consequently, this thesis

includes personal und structural characteristics and job characteristics in the JD-R model that reflect the work in institutionalized child care based on a literature review.

2.2.1 Personal characteristics and structural characteristics

The revised Job Demands-Resources model used in this thesis (see Figure 1) distinguishes between personal and structural characteristics that are set. Personal characteristics include for example the work experience or attitude toward center-based child care and structural characteristics include properties of the child care center such as employment conditions and staffing levels. Job demands and job resources, however, are job characteristics that arise during the work process, e.g., time pressure or support by co-workers. The JD-R model used in this thesis assumes that personal and structural characteristics shape the job demands and job resources (see Figure 1). In the body of literature on child care teachers a number of personal characteristics of the teachers are associated with the work experience and associated outcomes. First, longer *job tenure* and *higher age* have been associated with more job satisfaction and lower turnover among child care teachers (Guzell & Manlove, 1997; Jorde-Bloom, 1988; Kusma, Groneberg, Nienhaus, & Mache, 2012; Royer & Moreau, 2015). Second, *higher education levels* of child care staff have been related to lower turnover rates, while higher wages were associated with staff retention (Torquati et al., 2007; Whitebook & Sakai, 2003) . Third, the *motivation* for child care work was the only significant predictor for the intent to stay in a study by Torquati, et al. (2007). However, personal characteristics appear to play a subordinate role compared to structural characteristics (Schreyer & Krause, 2016; Viernickel et al., 2014).

Most research points out that the structural characteristics of the particular child care center are key to the work experience of child care teachers (e.g., Goelman & Guo, 1998; Hale-

Jinks et al., 2006; Schreyer & Krause, 2016; Viernickel et al., 2014). An extensive literature review suggests nine distinct categories of child care center (structural) characteristics that may inform job demands and job resources. (1) *Adequate staffing*: The number of staff in relation to children (low child-to-staff ratios) and the high qualification level of staff have both been associated with a positive work experience of child care teachers (Baumgartner et al., 2009; Curbow et al., 2000; Jungbauer & Ehlen, 2015; Mauz, Schumann, Viernickel, & Voss, 2013; Morris & Helburn, 2000; Whitebook & Sakai, 2003). (2) *Support by the governing agency*: Child care teachers experience a lack of support by the governing agency as a strain (Kliche, 2011; Rudow, 2004). (3) *Adequate work space*: Aspects of the work space that have been strenuous for child care teachers include lack of dedicated space for breaks, preparation and planning, lack of noise protection, and lack of adult-sized furniture (Gratz & Claffey, 1996; Koch et al., 2015; Rudow, 2004). (4) *A clearly articulated pedagogical approach*: A pedagogical approach contributes to a positive work experience of child care teachers (Viernickel et al., 2014). (5) *Employment conditions*: Many studies have shown that favorable employment conditions such as adequate working hours, further education opportunities are associated with a positive work experience of child care teachers (Goelman & Guo, 1998; Schreyer & Krause, 2016; Viernickel et al., 2014). (6) *Reserve pool*: The deployment of floaters and substitutes appears to reduce the demands on child care teachers (Strober, Gerlach-Downie, & Yeager, 1995; Viernickel et al., 2014). (7) *Characteristics of the children*: The age and the behavior of the children as well as the time they spend in child care have been associated with the work experience of child care teachers (Curbow et al., 2000; Machmutow, Schöllhorn, Simoni, Perren, & Meierhofer, 2013). (8) *Appreciation*: The low recognition of child care work has been negatively associated with a good work experience of child care teachers (Goelman et al., 2006; Viernickel et al., 2014). (9)

Planning and preparation time: The amount of planning and preparation time was positively associated good working experience (Hackl et al., 2015; Strober et al., 1995; Viernickel et al., 2014).

2.2.2 Job demands

Today, the child care profession is radically shifting. In its beginnings, the focus of the profession was on care and keeping children safe and healthy (Grob-Menges, 2009). Nowadays, child care work is expected to educate children and contribute to preparing them for school (Naumann, 2015). This reflects a wider social tendency to prefer educationally valuable activities to unstructured play and facilitating early care-arrangements that will result in success in school (Naumann, 2015). Moreover, the authorities and the market demand an increasing amount of paper work such as documenting children's development or integrating new educational concepts (Schreyer et al., 2016; Jungbauer & Ehlen., 2015). Several institutions promote so-called quality labels for child care centers adding an ongoing quality assessment and activities linked to attaining and keeping these labels. While these developments could signify a step towards increased recognition of the profession hand in hand with enhanced care quality, they only appear to present an additional burden to be shouldered by the staff. Child care teachers and directors complain that these demands are not accompanied by any additional financial and temporal resources, but only increase the work volume (Jungbauer & Ehlen, 2015; Schreyer & Krause, 2016).

In general, researchers suggest that child care teachers are not burdened by one single big demand, but by the accumulation of many minor demands (Kusma et al., 2012; Viernickel et al., 2014). Following Khan's (2002) meta-analysis of the health of German child are teachers, this

thesis classifies the demands in child care work into two categories: *Quantitative demands* and *qualitative demands*. Quantitative job demands are all demands associated with time. Studies about the child care teacher workforce highlight especially a lack of time for important tasks such as preparation and planning, breaks, conversation in the team, individual interactions with the children (Hackl et al., 2015; Khan, 2009; Koch et al., 2015; Viernickel et al., 2014; Whitebook, 1999) and indicate that child care teachers have to work under high time pressure (Curbow et al., 2000; Khan, 2009); a trend that may be increasing considering the developments mentioned above. An additional demand is the long working hours spent with children (Maslach & Pines, 1977; Shpancer et al., 2008). Qualitative demands, on the other hand, are demands that are associated with the complexity and variety of tasks and duties as well as the alignment of skills and tasks (Khan, 2009). Child care teachers report that their work includes manifold tasks requiring different skills and expertise such as social skills, pedagogical skills, and administrative skills (Curby, Boyer, Edwards, & Chavez, 2012; Khan, 2009). Additionally, some teachers report that they need to complete tasks they feel not adequately prepared for (Rudow, 2004).

2.2.3 Job resources

While a significant share of the research on the child care workforce has focused on stressors and negative job characteristics and outcomes, some research also identified job characteristics acting as resources among child care teachers. *Team climate.* Studies have shown that child care teachers who reported better co-worker relations were more satisfied with their job than their colleagues and reported less emotional exhaustion (Jorde-Bloom, 1988; Jungbauer & Ehlen, 2015; Kusma et al., 2012; Løvgren, 2016). *Leadership quality.* In a similar vein, leadership quality and support by supervisors and administration were related to higher job

satisfaction and lower turnover (Bloom, 1988; Fuchs & Trischler, 2009; Jungbauer & Ehlen, 2015; Hale-Jinks et al., 2006; Kusma et al., 2012). *Job control.* Job control refers to the extent of decision-scope on what work to do and how to do it (Taris, Stoffelsen, Bakker, Schaufeli, & van Dierendonck, 2005). Some studies have highlighted that child care teachers like the autonomy their work affords them, e.g., planning projects, the daily activities etc. (Hackl et al., 2015; Jungbauer & Ehlen, 2015). Moreover, perceived high autonomy was positively associated with psychological well-being among child care teachers (Royer & Moreau, 2015). Nonetheless, Viernickel et al. (2014) have also shown that child care teachers feel restricted by the daily routines such as the morning circles, meal times etc. *Role clarity.* Role clarity refers to the extent a worker can identify her duties, tasks, and responsibilities (Bond, Flaxman, & Loivette, 2006). Researchers have repeatedly identified role clarity or its opposite - role ambiguity - as being correlated with lower burnout levels among child care teachers (Løvgren, 2016; Manlove, 1993, 1994).

2.2.4 Mediators

Schaufeli and Bakker (2004) originally conceptualized the JD-R including burnout as the mediator of the energetic pathway and work engagement as the mediator of the motivational pathway. The growing body of research suggests broadening the mediators to *strain* and *well-being* (Schaufeli & Taris, 2014).

Burnout

In the early days of the research on burnout, Maslach and Pines (1977) and other researchers (cf., the meta-analysis by Goelman & Guo, 1998) investigated child care teachers as

a prototypical group suffering from burnout because child care teachers face high emotional demands and have close interactions with children, co-workers, and parents. Emotional demands and close interactions with people were considered a main source for the development of burnout (Maslach, Schaufeli, & Leiter, 2001). Forty years later, contemporary studies indicate that burnout levels among child care teachers still exceed those of other professionals (Jungbauer & Ehlen, 2015; Løvgren, 2016; Sjödin, Kjellberg, Knutsson, Landström, & Lindberg, 2012; Viernickel et al., 2014), but the interest of burnout researchers in this occupational group appears to have faded.

Different definitions of burnout have emerged during the past four decades (e.g., Borritz et al., 2006; Maslach & Jackson, 1981; Shirom & Melamed, 2006). They share the notion that burnout is an affective reaction to on-going cumulative occupational demands. Burnout manifests as a profound fatigue due to "a fundamental disconnect between the worker and the workplace" (Leiter & Maslach, 2004, p. 91). However, the definitions vary with respect to the expression and the number of dimensions included (Borritz et al., 2006; Maslach et al. 2001; Maslach & Jackson, 1981; Shirom & Melamed, 2006). Kristensen et al. (2005) and Shirom and Melamed (2006) postulate that burnout equals emotional exhaustion, i.e., a severe depletion of emotional and physical resources. In contrast to this conceptualization, the most prominent definition by Leiter and Maslach (2004) includes two additional dimensions: cynicism (also depersonalization) and inefficacy (also reduced accomplishment). However, Kristensen et al. (2005) and Shirom and Melamed (2006) argue that the three dimensions emotional exhaustion, cynicism, and inefficacy are associated with different precursors and correlates (Alarcon, 2011; Kristensen, Borritz, Villadsen, & Christensen, 2005) and, thus, burnout should only represent emotional exhaustion. This thesis follows the definition by Kristensen et al. (2005) and Shirom

and Melamed (2006), because emotional exhaustion has been established to be the core of burnout (Kristensen et al., 2005; Løvgren, 2016; Maslach et al., 2001); because emotional exhaustion is most strongly related to teaching (Näring, Vlerick, & Van de Ven, 2012), and most pronounced among child care teachers (Jungbauer & Ehlen, 2015; Rentzou, 2012).

Job satisfaction

A handful of studies about the child care workforce have addressed child care teachers' job satisfaction, e.g., Jorde-Bloom, 1986; Kusma et al., 2012, but these studies belong to the minority of studies investigating positive characteristics and attitudes despite the high level of job satisfaction in this occupational group (Fuchs-Rechlin, 2010).

Job satisfaction can be conceptualized as "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values" (Locke, 1969, p. 316). Satisfaction can refer to any aspect of the job, e.g., the working conditions or the possibility to reconcile family and work (Locke, 1969). Because satisfaction with working conditions, work, and pay have been concomitant with positive outcomes among child care teachers throughout the research (Stremmel, Benson, & Powell, 1993), this thesis includes the aspects working conditions, work, and pay. The majority of the extant research on job satisfaction among different occupational groups (Avanzi, Fraccaroli, Sarchielli, Ullrich, & van Dick, 2013; Tett & Meyer, 1993; Tschopp, Grote, & Gerber, 2013) as well as among child care teachers (Gable, Rothrauff, Thornburg, & Mauzy, 2007; Hale-Jinks et al., 2006; Stremmel, 1991) has shown that job satisfaction and turnover intention are closely negatively associated.

2.2.5 Outcomes

Different studies have modeled different outcomes in the Job Demands-Resources model, e.g., health problems (Schaufeli & Bakker, 2004), organizational commitment (Llorens et al., 2007), absences (Bakker, Demerouti, de Boer, & Schaufeli, 2003), as well as turnover intention (Schaufeli & Bakker, 2004). The revised JD-R model used in this thesis (see Figure 1) models turnover intention and, in turn, turnover and retention as outcomes. This is in line with the aim of this thesis to explore why child care teachers stay or leave. Therefore, this section discuss the state of research about turnover intention, turnover, and retention among child care teachers.

Turnover intention

Studies often explore turnover intention instead of turnover because the construct is the single best predictor of turnover and more accessible than actual turnover, e.g., it is possible to investigate it in cross-sectional designs (Bothma & Roodt, 2013; Mor Barak, Levin, Nissly, & Lane, 2006). Most studies on the child care workforce have also investigated turnover intention (e.g., Gable et al., 2007; Schreyer & Krause, 2016; Stremmel, 1991).

Turnover intention is an organizational outcome that involves different attitudes and behaviors such as the desire to leave, the search for alternative job opportunities, and withdrawal (Bothma & Roodt, 2013). Moreover, turnover intention is the best predictor for turnover (Korunka et al., 2009; Rothma & Roodt, 2013). The studies on child care teachers identified job alternatives, lower job tenure, low pay satisfaction, poor working conditions as correlates of turnover intention (Manlove & Guzell, 1997; Schreyer & Krause, 2016; Stremmel, 1991). However, a smaller number of studies found no significant association between pay and turnover intention (Manlove and Guzell, 1997; Torquati et al., 2007). The authors explain their findings

by a lack of alternative job opportunities in the region (Manlove and Guzell, 1997) and lack of variability of wages (Torquati et al., 2007).

Turnover

The few studies that investigate actual turnover of child care teachers have identified emotional exhaustion, low wages, little stability among team members, dissatisfaction with work environment and work, bad relationship to the supervisor as reasons for turnover (Manlove & Guzell, 1997; Wells, 2014; Whitebook & Sakai, 2003). Turnover has several expressions that may be associated with different reasons and consequences: job turnover, position turnover, occupational turnover, and natural turnover (cf. Whitebook & Sakai, 2003). While job turnover is a withdrawal from a specific work situation, occupational turnover is a withdrawal from the career as whole (cf. Whitebook & Sakai, 2003). Position turnover, however, is not a withdrawal behavior, but advancement or change to a new position in the same work situation, e.g., assuming new responsibility. Finally, natural turnover – a turnover type characteristic for the Swiss formal education system in early care and education – is not a deliberate decision by the worker, but a necessary step because assistant teachers need to change to a job adequate to their new qualification (see also the sections “Early care and education" and “Lead and assistant teachers") (Verband Kinderbetreuung Schweiz (Kibesuisse), 2014).

Retention

There is little research addressing retention in general and this also applies to retention among child care teachers. Although retention is also a deliberate decision for which empirical evidence suggests that distinct reasons cause workers to stay rather than leave (Manlove & Guzell, 1997; Mor Barak et al., 2006). One exception is a study by Wells (2014) that found that Head Start teachers stayed more frequently if they felt happy, had a good relationship with their

supervisor, liked the work environment, and had a higher level of education than their counterparts who left.

2. 3 The Areas of Worklife

The Areas of Worklife (AWL) stands in the tradition of the Person-environment fit models (P-E). Historically, P-E models are based on the concept of congruence in vocational guidance introduced by Parsons (1909) and the axiom by Lewin (1935) "that behavior is a function of the person and the environment" (Goštautaitė & Bučiūnienė, 2010, p. 1). The P-E approach postulates that incongruence or misfit of person and environment leads to stress and other negative outcomes (Edwards, 1998). Person-job fit models are a specific expression of the P-E models whereby the job represents the environment (Kristof-Brown, 2007). The AWL is a person-job fit model that is based on the observation that a mismatch between the person and the job in six areas of worklife contributes to burnout (Leiter & Maslach, 2004; Maslach et al., 2001). These six areas are *workload*, *control*, *reward*, *community*, *fairness*, and *values*. See Figure 2.

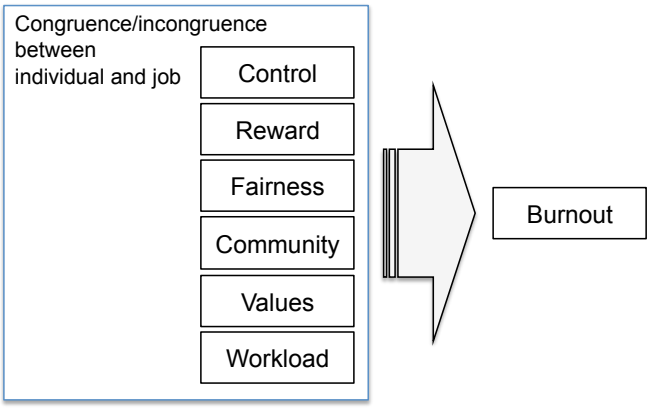

Figure 2: The concept of the Areas of Worklife

2.3.1 The Areas of Worklife in the child care workforce

Leiter (2015) emphasizes that the AWL have a specific expression in a profession. The worklife area *control* refers to job control as well as associated concepts such as role conflict and role ambiguity (Leiter & Maslach, 2004). Child care workers need to perform different roles and tasks at the same time - they need to be responsive to the children, the parents and their supervisors and complete administrative and pedagogical tasks at the same time. Additionally, teachers of different status (lead teachers, interns, trainees)[1] and also directors care for a group of children together. Consequently, *control* issues such as role conflict and ambiguity have been found to be stressors and associated with burnout among child care teachers (Khan, 2009; Manlove, 1994; Rudow, 2004). The worklife area *reward* refers to monetary and non-monetary appreciation of the work (Maslach et al., 2001). As outlined before, child care teachers feel poorly rewarded for their work with respect to pay, as well as recognition. Poor recognition and poor pay have both resonated with negative work-related outcomes in the child care research (Goelman & Guo 1998; Rudow 2004; Whitebook et al., 1989; Whitebook et al., 2014). The worklife area *workload* refers to the amount of work that needs to be performed in a given time (Leiter & Maslach, 2004; Maslach & Leiter, 1997). In child care, the workload is mainly dependent on the child-to-staff ratio because the amount of work increases gradually with more children per teacher, e.g., conversations with parents, documentation or individual interactions that multiply with a higher number of children (Maslach & Pines 1977; OECD, n.d.; Viernickel et al. 2014). As child care is labor-intensive work because most of the costs cover the child care

[1] See section "lead and assistant teachers" for an explanation of these terms.

teachers, adequate staffing level are a pervasive theme in care research. The worklife area *community* refers to the quality of social interactions at work and the sense of support and a self-perception as being part of a team (Leiter & Maslach 2004). For child care teachers, I assume that their main sense of community results from their relations with their co-workers and supervisors – the adults in their work environment. Studies have shown that child care teachers look for support from their team members and to a lesser degree by their supervisors (Barford & Whelton, 2010; Kontos & Stremmel, 1988; Kusma et al., 2012). The worklife area *fairness* refers to the perception of a fairly run and respectful workplace, e.g., for decision-making and the treatment of the staff (Leiter & Maslach, 2004). In child care work, teams are often small and relationships between directors and employers are close which may promote informal decision structures and unfair treatment. Additionally, the low requirements with respect to personnel management for directors may promote an unprofessional treatment (Schulthess, 2009). Finally, the sixth worklife area is *values* that means that one's own beliefs, goals, and convictions are in line with those of the organization (Leiter & Maslach, 2004). Studies have highlighted the importance of intrinsic rewards for child care teachers which suggests that values, such as those reflected in the pedagogical approach of a child care center, matter strongly.

2.4 A critical discussion of the theoretical approaches

In this subchapter, I will compare the two theoretical approaches used and address some of their limitations. Both models offer a framework for thinking about the relationship of work and workers' well-being. While the *JD-R model* evolved from a model predicting burnout into a conceptual model predicting many different positive and negative organizational outcomes, the *AWL* exclusively predicts burnout. Thus, the JD-R model has a broader scope than the AWL.

The basic assumption of the JD-R model is that the extent and relation of job characteristics - divided into job resources and job demands - shape the work-related well-being, attitudes, and behavior. The AWL, however, assumes that a misfit or incongruence of person and job in the six worklife areas leads to burnout. Hence, personal characteristics play a more important role in the AWL than in the JD-R. The revised JD-R model (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014) rather postulates a uniform impact of job characteristics on workers. Recently, researchers have discussed including personal resources, e.g., self-efficacy, self-esteem, in the JD-R model as antecedents of job demands and job resources, as moderators, as mediators, as "third variables", or any combination thereof (Schaufeli & Taris, 2014; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). This is a somewhat vague approach to addressing personal resources in the JD-R model. However, the modified JD-R model used in this thesis included personal characteristics as antecedents of job resources and job demands to take personal characteristics into account.

The central components of the two models are the *job resources and job demands* in the JD-R and the *worklife areas* in the AWL. Additionally, the modified JD-R used in this thesis distinguishes between structural characteristics and job resources and job demands. While the number and type of structural characteristics, job resources and job demands in the JD-R model are unlimited, there are six worklife areas. Therefore, the JD-R model offers more flexibility and allows for integrating any characteristics specific to an occupation, while the AWL is not exhaustive and thus may overlook areas, such as emotional or physical demands, associated with burnout. However, the JD-R provides little guidance on how to choose or specify the job characteristics in the model which may result in a random selection of job characteristics.

Moreover, while the job characteristics included in the JD-R model are neatly defined characteristics (c.f. Schaufeli & Taris, 2014), the six worklife areas represent very broad categories. The worklife area control, for example, encompasses job characteristics that the JD-R model would classify into distinct characteristics, e.g., job control and role clarity (Schaufeli & Taris, 2014). This distinction may be more instructive than one broad category that comprises very distinct features. The job characteristics of the JD-R model have their limitations, too. Van den Broeck et al. (2013) suggest that it may not be the extent of a job demand, but the type of the demand that is decisive for a job demand being a burden or a challenge to a worker. While a burden cannot be overcome, a challenge can be overcome and contribute to work engagement (Van den Broeck et al., 2013). However, it is still unclear which demands are a challenge and which ones are a hindrance (Van den Broeck et al., 2013). This distinction may be associated with inconsistencies of classifying job characteristics into job resources or job demands (Van den Broeck et al., 2013). Additionally, it appears plausible that characteristics of the person also influence whether a job demand poses a challenge or constitutes a hindrance to an individual. At this point, the assumption of the AWL that the congruence or incongruence between person and job (characteristic) is relevant may be instructive.

Finally, the direction of the relationship between job characteristics and work-related outcomes and the misfit between person and job in the six worklife areas and burnout are both postulated to be unidirectional. For the JD-R model, empirical evidence suggests that the relationships between job characteristics, mediators, and outcomes in the JD-R model are reciprocal (Schaufeli & Taris, 2014). This may also explain why the classification of job characteristics and outcomes has been somewhat inconsistent, e.g., work-home interference was modeled as a job demand as well as an outcome (Van den Broeck et al., 2013). For the AWL, the

relationships may be also reciprocal because burnout may increase an incongruence or misfit between the person and a certain worklife area. These inconsistencies and limitations suggest that the relationship between work and workers' health may be more complex – and reciprocal – than modeled either in the JD-R model or the AWL. Nonetheless, both approaches offer a sound framework for reflecting on the relationships between work and worker's well-being.

2.5 Institutionalized early care and education in Switzerland

As described in the introduction, the *early care and education sector* is very young in Switzerland (Netzwerk Kinderbetreuung & Kibesuisse, 2015); it mainly expanded over the last 15 years. The Swiss system splits care and education for children into a *pre-school* and *school* system. While the public hand operates the care and education facilities for children aged 4 years and older – after they enter kindergarten – early care and education facilities are mostly left to the private, voluntary, and independent sector representing a mixed economy of services (Bundesamt für Sozialversicherungen, 2017). Because early care and education facilities vary widely across the 26 cantons and municipalities, I will focus on the early care and education sector in the City of Zurich where the studies for this thesis took place. Child care centers serve the vast majority of young children in the city of Zurich. The public hand operated only 3% of all child care centers in the City of Zurich in 2013.[2] The remaining child care centers were operated

[2] The statements report the situation in 2012/2013 when the first study of this thesis took place. The estimations are based on records provided by the Department for Social affairs, city of Zurich, that are not published or publicly accessible.

by associations (54%), limited liability companies and private companies offering child care for their employees (39%), foundations (3%), and cooperatives (3%). Sixty-five percent of the centers were non-profit and 35% for-profit. In total, 114 different governing agencies operated child care centers indicating that most agencies only operate one or two centers. Out of the total 273 child care centers, the government financially supported 205 centers (75%) – these child care centers are the population of the studies (Stadt Zürich Sozialdepartement, 2013). The child care centers offered between 10 and 147 places for children on a daily basis and served 65% of the children aged 3 months to 5 years in the city (Stadt Zürich Sozialdepartement, 2014b). Fifty-six percent of the children attend child care centers one or two days a week (Bundesamt für Sozialversicherungen, 2017).

Teaching in early care and education is a vocational profession in Switzerland (Flitner, 2009). The usual career path for a child care teacher goes like this: A young woman[3] enters the profession doing an internship in a child care center, after a year she becomes a trainee and starts an apprenticeship in the same child care center. This 3-year apprenticeship consists of vocational pedagogical college and supervised work in the center. After completing the apprenticeship, she holds a vocational level diploma and is authorized to work as a lead teacher in institutionalized child care (Verband Kindertagesstätten der Schweiz (KITAS/ASSAE/ASSAI), 2008). In total, about 44% of staff in Swiss child care centers are either interns or trainees and the remaining 56% are lead teachers (Bundesamt für Sozialversicherungen, 2017).

[3] Child care work lies to 95% in women's hands in Switzerland, therefore this thesis uses female expression throughout - men are always included.

2.6 Lead and assistant teachers

The child care workforce in most industrialized Western countries can broadly be classified based on their education and role in (1) *lead teachers* and (2) *assistant teachers*[4] (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010).[5] The percentage of assistant teachers is up to 50% in many countries (Andersson & Gørtz, 2010; Bovolenta, 2013; European Commission/EACEA/Eurydice/Eurostat, 2014; Sumsion, 2007). Whereas lead teachers usually have completed some kind of formal education, assistant teachers usually have no or only limited professional education (OECD, 2010). The different education levels of each group usually correspond with different tasks, duties, and responsibilities (OECD, 2010). However, educational requirements, tasks, as well as composition of staff differ greatly from country to country (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010).

For the Swiss context, I refer to child care teachers holding a vocational college diploma in early care and education as 'lead teachers' and interns and trainees as 'assistant teachers'. In Switzerland, lead teachers plan the daily activities according to the curriculum, document children's development, supervise assistant teachers, and are in charge of the day care center.

[4] Whereas lead teachers are also referred to as "education or care staff" and "child care workers" and assistant teachers are referred to as "auxiliary staff" (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010), this thesis uses the terms used more commonly in research. This inconsistent naming may be an indicator for the differences between different national systems.

[5] The OECD (2010) makes use of a third category, the pre-primary/primary teacher. This category is not relevant for this thesis because teachers taking this role are not subject of the investigation.

Assistant teachers, however, mainly take on a supporting role, helping the lead teachers by organizing transitions and nap time, and carrying out the daily activities (KITAS/ASSAE/ASSAI, 2008).

The small body of research addressing differences in the working experience and work-related outcomes between lead and assistant teachers yielded inconsistent findings. While a few studies have found that the two groups do not differ with respect to roles, responsibilities, and personal characteristics etc. (Bullough et al., 2012; Kontos & Stremmel, 1988; Whitebook et al., 1981), other studies have illustrated work-related differences between the two groups (Curby et al., 2012; Løvgren, 2016; Sosinsky & Gilliam, 2011; Wells, 2014). Curby et al. (2012) have shown that assistant teachers provided less instructional guidance than lead teachers. Løvgren (2016) found that lead teachers reported higher levels of emotional exhaustion than assistant teachers and parent-oriented and teaching tasks were significantly associated with emotional exhaustion among lead but not among assistant teachers. Against the background of the inconsistent findings and the specific composition of the Swiss child care workforce, this thesis accounts for differences between lead and assistant teachers.

3. Aim of this thesis & research questions

The aim of this thesis is to explore ***why child care teachers stay*** and ***why child care teachers leave***. This thesis addresses this question exploring three subordinated topics hypothesized in the modified JD-R model to contribute to retention or turnover: (1) Job resources and job demands and their personal and structural correlates, (2) burnout, and (3) turnover intention. Finally, this thesis links turnover intention to actual turnover (4). To explore burnout, the concept of the AWL is used. Additionally, this thesis accounts for differences between lead and assistant teachers.

Leading research question. 1. Why do child care teachers stay, why do child care teachers leave?

The JD-R model assumes that job demands and job resources initiate two separate processes, the energetic pathway and the motivational pathway, that lead to turnover intention, and in turn, to turnover. Moreover, the personal and structural characteristics shape these job demands and job resources. Therefore, this thesis first addresses job demands and job resources and their personal and structural correlates among child care teachers asking (see Figure 3):

Research question 1a. What are important job resources and job demands among child care teachers?

Research question 1b. What personal and structural characteristics are associated with job resources and job demands?

Research question 1c. Do job resources and job demands and their personal and structural correlates differ between lead and assistant teachers?

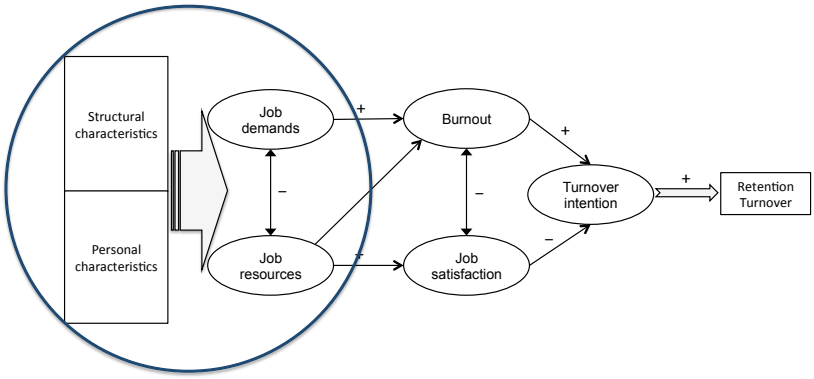

Figure 3. Research questions 1a, 1b, and 1c in the JD-R model

The research literature highlights that child care teachers often suffer from burnout symptoms (Goelman & Guo, 1998; Koch et al., 2015; Maslach & Pines, 1977) and that burnout is closely associated with turnover intention (Alarcon, 2011; Bothma & Roodt, 2013; Manlove & Guzell, 1997; Schaufeli & Bakker, 2004). Moreover, Guo and Goelman (1998) assume that burnout symptoms are highly clustered in child care centers. Therefore, this thesis asks (1) whether burnout levels among child care teachers are clustered in child care centers and (2) what are the most important child care teachers' (level 1) and child care centers' (level 2) correlates of burnout symptoms among child care teachers. To identify relevant correlates of burnout, we draw on the concept of the AWL. Figure 4 depicts research question 1e.

Research question 1d. Are burnout symptoms among lead teachers clustered in child care centers?

Research question 1e. What are the most relevant individual and organizational correlates of burnout symptoms among lead teachers?

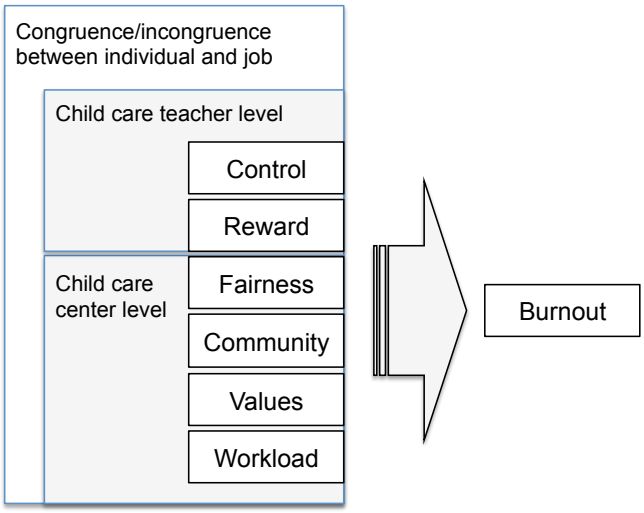

Figure 4: Research question 1e and level of the included variables

The modified JD-R model hypothesizes that burnout increases the intent to turnover and turnover rates through the energetic path "*job demands → burnout → turnover intention"*. On the other side, the motivational path "*job resources → job satisfaction → turnover intention"* is assumed to decrease the intent to leave and increase retention. Additionally, job resources are hypothesized to directly mitigate burnout. These assumptions of the JD-R model lead to the following research question (see also Figure 5):

Research question 1f. Does burnout mediate the association between job demands and turnover intention among child care teachers? Do job resources reduce burnout levels among child care teachers

Research question 1g. Does job satisfaction mediate the association between job resources and turnover intention among child care teachers?

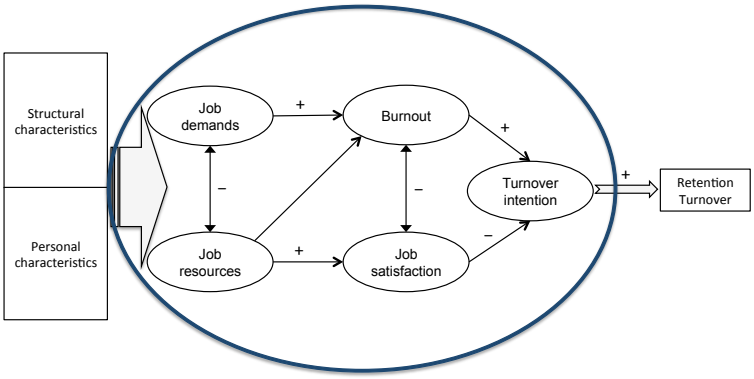

Figure 5: Research questions 1f and 1g in the JD-R model

The modified JD-R model postulates that turnover intention leads to turnover. Research suggests that turnover intention and turnover are closely associated, while additional factors influence the decision to stay or leave (Bothma & Roodt, 2013; Manlove & Guzell, 1997). Therefore, this thesis further questions (see also Figure 6):

Research question 1h. Does turnover intention among child care teachers reported at the baseline predict turnover three years later?

Research question 1i. What are the (additional) reasons for staying, leaving the job, and leaving the profession in the child care workforce?

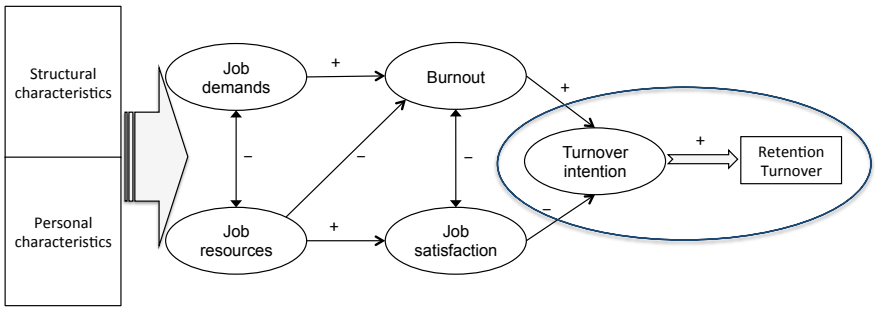

Figure 6: Research questions 1h and 1i in the JD-R model

4. Methods

The doctoral thesis is a cumulative thesis comprising three research articles published or resubmitted or submitted for publication in peer-reviewed journals. These research articles report the four studies that are presented in chapters 5, 6, and 7. The four studies draw on data from two questionnaire-surveys investigating the child care workforce in a Swiss community. The next sections provide an overview over the surveys, the data, and the methods applied in the four studies.

4.1 Data A

The *first survey* was part of the study "Working conditions and health among the staff in child care centers in the city of Zurich"[6] funded by the Department for Social Affairs, city of Zurich[7]. A study team at the Epidemiology, Biostatistics, and Prevention Institute, University of Zurich, including myself, conducted the study. Based on reports from the field, the Department for Social Affairs assumed that turnover rates and absences in the child care centers were high and a threat to the quality of care. Therefore, the goal of the survey was to evaluate the working conditions and health of the staff, the staff situation and turnover and absences in the 202 child care centers which are publicly co-financed in this community. These child care centers made up

[6] Original title of the study is "Arbeitsbedingungen und Gesundheit des Kita-Personals in der Stadt Zürich".

[7] A summary of the study written by the department of social affairs is available online (Stadt Zürich Sozialdepartement, 2014a).

78% of the total 260 child care centers in 2013. To date, no large-scale study has investigated the child care workforce in Switzerland.

In a first step, I conducted face-to-face interviews with seventeen child care teachers, eight child care center directors, and seven experts in the early care and education field in order to narrow down the topics for the questionnaires of the questionnaire-survey. We analyzed the interviews using content analysis (Mayring, 2010) and discussed the results in two focus groups with child care teachers and directors. Based on the results, the study team developed three specific questionnaires for child care teachers, child care center directors, and governing agencies. The child care teachers' questionnaire covered the topics job characteristics, working conditions, health, well-being, and work-related attitudes as well as job tenure, tasks, sociodemographic information and the name of the child care center. The directors' questionnaire covered the same topics as the questionnaire for the child care teachers. Additionally, the questionnaire collected information about the staff situation and characteristics of the child care center.

In a second step, we conducted a questionnaire-survey among the staff in the publicly co-financed child care centers from June to August 2013. For this purpose, I asked the directors of the child care centers via email to share the online questionnaire or a hard copy form with their employees. We reminded the child care directors of the survey because the initial response rate was low. An additional survey questioned the trainees who did not participate through their child care center in a vocational college in October 2013. In total, 1093 (52%)[8] child care teachers,

[8] Numbers are based on records provided by the Department of Social Affairs, city of Zurich.

100 (57%) child care center directors, and 55 people representing the governing agency (48%) participated in the survey. This response rate can be considered as high for this occupational group (cf. Viernickel et al., 2014). After the data analysis, a co-worker and I discussed the results again in two focus groups with child care teachers and directors. Finally, we wrote a technical report of the results and elaborated improvement measures for the working situation in consultation with the study team.

4.1.1 Data A.1

Data A.1 comprises the data of the child care teachers collected in this first survey: assessments of 488 lead teachers (50%) and 591 assistant teachers (53%). The average age of lead teachers was 30 years (*SD* = 8.8) and that of assistant teachers was 20 years (*SD* = 3.9). The lead teachers have been working in early care and education for an average of 10 years (*SD* = 6.14), the assistant teachers for an average of 2.6 years (*SD* = 1.54). Ninety-five percent of the lead teachers and 93% of the assistant teachers were women. Twenty-two percent of the lead teachers and 3% of the assistant teachers had children. Twenty-two percent of the lead teachers and 35% of the assistant teachers did not cite the name of their child care center. As a result, I was not able to assign these child care teachers to a child care center. Therefore, I had to decide whether the analyses consider the nested data structure while excluding a substantial percentage of information or whether the analyses include this data, but neglect the nested data structure.

4.2.1 Data A.2

Data A.2 encompasses the 59 assessments of the child care center directors who participated in the survey and could be matched with data from their employees through the child care center. The average age of the directors was 40 years (*SD* = 9.65). They have been working

in the field for 19.01 years (*SD* = 7.98) and as a director for 7.76 years (*SD* = 6.26). Thirty-five percent of the directors had children and 95% were women.

4.2 Data B

The *second survey* assessed the participants of the first study again three years later (October 2016) via an online questionnaire. The goal of the survey was to assess the turnover and retention as well as the reasons for leaving or staying among the participants of the first survey. The questionnaire developed for this study assessed retention and turnover, present occupation (e.g., employment, stay-at-home father/mother), the reasons for leaving or staying (open-ended questions), and demographic information. I emailed the online questionnaire to the 556 participants who had provided their email address in the first survey. In total, 273 participants (49%) completed the online questionnaire. In both surveys, the questionnaires requested the participants to create a unique code. I was able to match the data of 95 participants collected in survey 1 and survey 2 through this code.

4.3 Applied data and methods

4.3.1 Study 1

The chapter ‚Demands and job resources in the child care workforce: Swiss lead teacher and assistant teacher assessments' reports study one. The *first* study includes a narrative literature review and, based on this review, an empirical analysis. This analysis uses the assessments of 491 lead teachers and 310 assistant teachers of data source A. The analyses excluded the assistant teachers questioned at the vocational college because they reported significantly lower scores in most child care centers characteristics, lower job resources and

higher job demands than their counterparts questioned through the child care centers. These differences imply that the two groups may be from different populations, i.e., child care centers with different expressions in structural characteristics such as work spaces, support by governing agencies, and employment conditions. The statistical analyses comprise descriptive and inferential analyses (bivariate correlations, *t* tests, and multiple regressions), using the statistical software SPSS, version 21.00.

4.3.2 Study 2

The chapter 'Correlates of burnout symptoms among child care teachers – A multilevel modeling approach' portrays study two. The *second* study applies multilevel-modeling, thus the analyses only include data assignable to a specific child care center (the level 2 variable). Moreover, calculations only include lead teachers' data because included variables that differ significantly between lead teachers and assistant teachers. In total, the analyses comprise assessments of 220 lead teachers of data source A and assessments of the 59 child care center directors of data source B. The analysis includes child care teacher level (level 1) and the child care center level (level 2) variables. First, descriptive and correlations analyses describe the data and the relationships among study variables using the statistical software SPSS, version 22.00. Second, aggregation indices assess the validity of the data aggregation and linear mixed-effect models with maximal random effects examine relationships among study variables using the nlme package of the open source software R (Bliese, 2016; Pinheiro et al., 2016).

4.3.3 Study 3

The chapter 'Why Do Child Care Teachers Leave? Why Do They Stay?' reports the studies 3 and 4. The *third study* uses data of 491 lead teachers and 569 assistant teachers (data source A). Descriptive and correlational analyses describe the study variables and their bivariate

relationships using SPSS version 23.0. Furthermore, structural equation models for lead and assistant teachers test the relationships between study variables simultaneously using the lavaan package of the open source software R (Rosseel, 2016).

4.3.4 Study 4

The chapter 'Why Do Child Care Teachers Leave? Why Do They Stay?' includes the study 4. The *fourth* study uses data of the 273 individuals collected in the second survey (data source B) and the data of those 95 participants collected in the first survey that could be matched through the unique code. First, descriptive and correlational analyses describe the study variables and their relationships of survey 1 and 2 using the statistical software SPSS version 23.0. Second, a content analysis according to Mayring (2010, 2015) explores the answers to the open questions of survey 2.

4.4 Contribution of the PHD candidate to the research articles

For this thesis, I was awarded a scholarship by the Swiss National Science Foundation (Project Nr. 159143) for the period between March 2015 to April 2017; previously, I was funded by the Public & Organizational Health department, EBPI, University of Zurich. In addition to the role of principal investigator in survey 1 as described above, I also conducted the data collection of the second survey. Furthermore, I conceptualized the three research articles, carried out the necessary analyses, and put the concepts into writing in consultation with my supervisors. A graduate assistant and a co-worker supported the qualitative analysis and translation conducted and reported in study 4.

5. Demands and job resources in the child care workforce: Swiss lead teacher and assistant teacher assessments

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Abstract

Center-based child care has been struggling with poor health and high turnover rates of child care staff and their adverse impact on care quality for decades. Yet little is known about personal and structural antecedents of job resources and job demands which are valid predictors of health and turnover in the child care workforce. ***Research findings.*** The study investigated job resources and job demands among child care staff of different education levels (491 lead teachers and 310 assistant teachers) from Switzerland. Results from t-tests and hierarchical regression analyses indicated slightly higher job resources and job demands for lead teachers than for assistant teachers, but similar antecedents of job resources and job demands. Overall, the center characteristics shaped job resources and job demands more strongly than the staff characteristics. More specifically, job resources were predicted by structural characteristics associated with professionalism in child care work, whereas job demands were primarily dependent on adequate staffing. ***Policy implications.*** The findings suggest that center characteristics, e.g., working environment and staffing levels, should be targeted in order to increase the job resources and reduce the job demands which would, in turn, promote health and lower turnover rates of child care staff.

Extensive research about early childhood development conducted over several decades, combined with evaluations of child care quality underscore the importance of long-lasting, stable relationships between children and child care staff (Love et al., 2003; Vandell & Wolfe, 2000; OECD, 2006; Urban, Vandenbroeck, Lazzari, Van Laere, & Peeters, 2012). Interactions between children and their early childhood teachers are the cornerstone of the educational processes necessary to promote children's optimal development and learning (Raikes, 1993; Shpancer et al., 2008).

Yet two persistent features of child care settings have been repeatedly identified as undermining the quality of relationships between children and their teachers: the high job turnover rates among early childhood teaching staff (Kusma et al., 2012; Sumsion, 2007; Whitebook, Sakai, Gerber, & Howes, 2001) and the high prevalence of burnout and other indicators of poor health among their ranks (Hossain, Noll, & Barboza, 2012; Slack-Smith, Read, Darby, & Stanley, 2006; Viernickel et al., 2014; Whitaker et al., 2013). Turnover interrupts the trust necessary for children to safely explore and engage in learning in child care settings (Bridges, Fuller, Huang, & Hamre, 2011; Raikes, 1993), while exhaustion and stress among child care teaching staff can render them less able to be responsive to children's needs (Hossain et al., 2012; Stremmel et al., 1993). Either singly or in combination, turnover and compromised health among child care teachers[9], can pose a threat to the quality of any given child care arrangement (Barford & Whelton, 2010; Whitebook & Sakai, 2004).

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[9] In this article, we use the terms 'child care teachers' and 'teaching staff' if we refer to both group of teachers – lead teachers and assistant teachers. Otherwise, we use the specific terms 'lead teachers' or 'assistant teachers'.

The center-based child care sector has grown rapidly in recent decades as a consequence of the increasing number of single parents and working mothers (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2006; Sumsion, 2007). As a result, the number of children who attend child care centers has risen accordingly along with a recognition that the quality of child care services now impacts an ever-increasing proportion of the population of young children across Europe and many other countries in the world (European Commission/EACEA/Eurydice/Eurostat, 2014). Likewise, the robust body of research assessing the quality of these services has mushroomed in recent decades (Boller et al., 2015; Burchinal, Vernon-Feagans, Vitiello, & Greenberg, 2014; Hestenes et al., 2014; Layzer & Goodson, 2006). Yet the work environments of child care staff, and their assessments of the conditions in which they teach have received only minimal attention. To date, knowledge about job demands and job resources in the child care workforce is scarce and scattered despite their predictive power for work-related attitudes, health, and behavior. Moreover, those studies with some focus on the workforce have predominately focused on lead teachers with advanced qualifications while paying little attention to assistant teachers[10] working in early care and education settings. Studies that focus on assistant teachers as well have primarily investigated their roles and duties but not their work experience (Curby et al., 2012; Sosinsky & Gilliam, 2011). However, in many countries, assistant teachers comprise a significant fraction of the staff caring for and educating young children in child care centers (OECD, 2010; European

[10] The OECD (2010) and the European Commission/EACEA/Eurydice/Eurostat (2014) refer to them as either *auxiliary staff* or *assistant staff*. We will use the more common term *assistant teachers*.

Commission/EACEA/Eurydice/Eurostat, 2014; Sosinsky & Gilliam, 2011).

This article focuses on both of these gaps in the existing child care workforce research. First, we review the existing body of research in order to compile the important job resources and job demands and their personal and structural antecedents in the child care workforce and proceed by integrating them into the framework of the Job Demands-Resources model (Bakker & Demerouti, 2007; Demerouti et al., 2001). In a second step, we examine the personal and structural antecedents onto the perceived job resources and job demands of lead teachers and assistant teachers. Identifying the relevant personal and structural antecedents of job resources and demands for child care teachers and assistant teachers can determine possible approaches to promoting a healthy and stable child care workforce essential to high quality experiences for children while taking into consideration the staff's education levels.

Lead Teachers and Assistant teachers

Early care and education systems and settings vary greatly across different countries (European Commission/EACEA/Eurydice/Eurostat, 2014). Qualifications for staff differ but across systems, those working in early care and education settings come from diverse educational backgrounds that generally correspond to variations in their responsibilities, tasks and duties (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010). Empirical evidence about hierarchical arrangements in child care work, the different roles and responsibilities of lead teachers and assistant teachers, is inconsistent. While some prior research suggests that lead teachers and assistant teachers perform largely similar roles and duties (Kontos & Stremmel, 1988; Whitebook, Howes, Darrah, & Friedman, 1981), other research indicates that their roles and duties rather vary (Curby et al., 2012; Sosinsky & Gilliam, 2011). In addition,

personal predictors of the well-being of lead teachers and assistant teachers appear to vary, e.g. personal characteristics such as age and education predicted emotional exhaustion of lead teachers but not assistant teachers in a study by Stremmel et al. (1993).

Considering the heterogeneity of the child care staff, the OECD (2010) and the European Commission/EACEA/Eurydice/Eurostat (2014) categorize child care staff in two broad groups based on their education[11]: (1) *Child care teachers* who have usually completed relevant formal education (e.g., vocational training, college) and hold some type of early care and education diploma (e.g., vocational level diploma, college degree) and (2) *Assistant teachers* whose education levels range from no formal education to some vocational training.

Lead teachers and assistant teachers typically work together to care for and educate a group of children (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010; Sosinsky & Gilliam, 2011). The number of assistant teachers varies across countries but the number exceeds 50 percent of the staff employed in child care centers in some countries (European Commission/EACEA/Eurydice/Eurostat, 2014; Gørtz & Andersson, 2013; Sumsion, 2007). Although higher levels of formal education among child care staff have been associated with better program quality and child outcomes (Goelman et al., 2006; Urban et al., 2012; Whitebook & Sakai, 2003), education requirements for assistant/auxiliary positions are often

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[11] The definitions of the OECD (2010) and the European Commission/EACEA/Eurydice/Eurostat (2014) include a third category: the *pre-primary/primary teachers*, also referred to as *educational staff*. Pre-primary teachers usually hold the same degrees as primary teachers. In Swiss child care centers this type of staff is not employed.

minimal or non-existent (Curby et al., 2012; European Commission/EACEA/Eurydice/Eurostat, 2014).

Both groups of child care staff identified by the OECD (2010) are relevant in the Swiss context: Swiss *lead teachers* are in charge of the children in their classroom or group and supervise co-workers. They plan daily activities according to the center's curriculum, train new staff and document child development (KITAS/ASSAE/ASSAI, 2008). *Assistant teachers* primarily support the lead teachers by implementing activities with the children, organizing transitions, and managing nap time (KITAS/ASSAE/ASSAI, 2008). This split of responsibilities, tasks and duties is similar for the child care workforce in other countries (Curby et al., 2012; European Commission/EACEA/Eurydice/Eurostat, 2014).

Theoretical Background

The *Job Demands-Resources model (JD-R)* postulates that occupational outcomes such as burnout, work engagement, and associated behavior (e.g., turnover) are the result of the extent and interaction of *job demands* and *job resources* (Bakker & Demerouti, 2007; Schaufeli & Taris, 2014). Job demands are defined as aspects of a job that require employee effort and can therefore lead to strain. Job resources, in contrast, facilitate the achievement of work goals, enable employees to meet job requirements, and enhance personal development (Bakker & Demerouti, 2007). For example, social support from colleagues and task variety are considered job resources; work pressure and complexity are considered job demands (Schaufeli & Taris, 2014). These job resources and job demands emerge from the interplay between the workers' personal characteristics and the day-to-day structural characteristics of the organization in which they are employed (Schaufeli & Taris, 2014). Finally, the extent and interplay of job resources

and job demands predict burnout, work engagement, and associated behaviors such as turnover (e.g., Schaufeli & Taris, 2014; Van den Broeck et al., 2008).

Although the JD-R model is not specific to the population of the child care teachers, it is applicable to their work and role. In the child care field, quality is typically conceptualized around structural variables, such as child-to-staff ratio, wages, and educational background of child care teachers and process variables focused on children's experiences including interactions with their teachers in child care (NICHD Early Child Care Research Network, 2002). The JD-R model encompasses this distinction in structural and process variables to the extent that it defines the structural characteristics, personal and program characteristics, as antecedents of process including job demands and job resources, which impact staff.

Job resources and job demands and their antecedents in child care work

Each profession has specific *job resources* and *job demands* (Bakker & Demerouti, 2007). Pivotal job resources in child care work are *team* and *leadership support* because child care teachers who feel socially supported are healthier, more satisfied with their jobs and experience higher degrees of job commitment than their counterparts who lack equivalent support (e.g., Goelman & Guo, 1998; Jorde-Bloom, 1988; Kusma et al., 2012). An additional important job resource is *role clarity,* i.e., being aware of one's role and associated tasks and responsibilities, a lack of which appears to fuel burnout and turnover among lead teachers (Goelman & Guo, 1998; Jorde-Bloom, 1986; Manlove, 1993). A fourth job resource is *job control:* the authority and scope for decision-making on the work performed contribute significantly to child care teachers' well-being (Khan, 2009; Koch et al., 2015; Royer & Moreau, 2015; Rudow, 2004).

Job demands are usually grouped into a *quantitative* and *qualitative* dimension in child care work (Khan, 2009: Rudow, 2004). Quantitative demands comprise time requirements such as time pressure (Jorde-Bloom, 1988; Kusma et al., 2012; Rudow, 2004), qualitative demands include complex and various tasks and tasks not aligned with the formal education (Curbow et al., 2000).

Antecedents of job resources and job demands can be grouped into (a) *personal* and (b) *structural* characteristics. Personal characteristics include age, tenure, and attitudes toward their job as a career. For example, older child care teaching staff and those with longer work experience have reported higher levels of job satisfaction with some variation over the work life (Jorde-Bloom, 1988; Kusma et al., 2012; Royer & Moreau, 2015). Occupational or job tenure appear to be sensitive to education and pay, with those with higher levels of formal education and better compensation more likely to remain on the job (Torquati et al., 2007; Whitebook & Sakai, 2003). In addition, child care teachers who viewed their job as a calling or a career were more likely to enter the field and less likely to leave their positions or the field than those who viewed their work as merely a job (Fenech, Waniganayake, & Fleet, 2009; Torquati et al., 2007).

Based on existing body of research we identified nine distinct categories of structural characteristics including: (1) *Adequate staffing*: Two aspects of staff have been identified to positively influence the experience of work: a *sufficient number* of staff (Curbow et al., 2000; Mauz et al., 2013) and a *well-educated* staff (Baumgartner et al., 2009; Morris & Helburn, 2000; Whitebook & Sakai, 2003). Child care teachers who reported higher child-to-staff ratios indicated that they felt less able to perform their jobs efficiently than their colleagues reporting lower child-to-staff ratios (Viernickel et al., 2014). (2) *Support by the governing agency:* Perceived lack of support by the agency governing the child care center has been identified as a

strain for child care teachers (Kliche, 2011; Rudow, 2004; Stadt Zürich Sozialdepartement, 2014a). (3) *Adequate work space*: Child care teachers have reported strain resulting from a variety of features of the physical work environment including: a lack of adequate and dedicated space in which they can take breaks, prepare for daily activities with children and complete required paperwork responsibilities as well as from the absence of noise protection measures and adult-sized furniture (Gratz & Claffey, 1996; Koch et al., 2015; Rudow, 2004). (4) *A clearly articulated pedagogical approach*: A clearly articulated pedagogical approach guiding the staff's interactions with children has been shown to contribute to a supportive work environment (Viernickel et al., 2014). (5) *Employment conditions*: Several employment conditions, such as low wages, limited benefits and long weekly working hours have been associated with negative work-related health outcomes for staff in child care settings (Goelman & Guo, 1998; Jorde-Bloom, 1986; Schreyer et al., 2014; Viernickel et al., 2014; Whitebook, 1999). (6) *Reserve pool:* Research suggests that the deployment of floaters and substitutes unburdens child care teachers, enabling them to take breaks and give individual attention to children while giving them the possibility to stay home when ill (Viernickel et al., 2014). (7) *Characteristics of the children*: Several aspects related to the children, such as age, number, and the degree to which they exhibit challenging behaviors were found to be associated with child care teaching staff perceptions of their work environment (Curbow et al., 2000). Additionally, a high proportion of children attending part-time can influence the experience of work negatively because daily changes in group composition increase the number of child assessments required as well as the time spent communicating with parents (Machmutow et al., 2013). (8) *Appreciation*: The low social status of child care work has been widely discussed and identified as contributing to negative outcomes such as low job satisfaction and high turnover (Goelman & Guo, 1998; Viernickel et al., 2014).

(9) *Planning and preparation time*: Child care teachers who have more time for preparation and paper work reported that they felt they were better able to do their job well (Viernickel et al., 2014).

Research findings on the relationship between structural characteristics and job demands and resources of child care teachers are mixed. Older studies, e.g. the study by Kontos and Stremmel (1988), state that the evidence about a relationship between structural characteristics and work-related outcomes (job satisfaction, commitment) is limited, whereas recent studies by Viernickel et al. (2014) and Schreyer and Krause (2016) propose a strong relationship between structural working conditions and job resources and job demands in the child care workforce.

Study context: Early care and education in Switzerland

The majority of child care centers (90%) in Switzerland are private institutions operated by associations[12], limited liability companies[13], employers, and foundations that offer places for preschool children aged from 4 months to 5 years (KITAS/ASSAE/ASSAI, 2008). Child care centers can be operated as a for profit or non-profit enterprise. Based on the structure of public subsidies and parents' income, the parents' contributions range from 30 to 100 percent of the cost of the service (Kucera & Bauer, 2000). On average, child care cost covered by Swiss

[12] In Switzerland, an association refers to an association comprised of people working toward a common and specific goal, such as parents joining together to operate a care center, or soccer enthusiasts creating a club to promote soccer. An association is by definition a non-profit organization.

[13] In Switzerland, a limited liability company is a corporation that is established by a specific person. It can be operated on a for-profit or non-profit basis.

families are among the highest worldwide (OECD, 2014). Most children attend child care part-time, typically 2 to 3 days a week (Machmutow et al., 2013).

In Switzerland, lead teachers in child care institutions are required to complete a three-year vocational apprenticeship. The assistant work force is composed of trainees and interns. Trainees are those enrolled in the vocational apprenticeship which consists of supervised work as a teacher in a child care center for 3.5 days per week and attending vocational college for the remaining 1.5 days (Bundesamt für Berufsbildung und Technologie, 2005; Flitner, 2009). Assistant teachers participating in a one-year internship usually have no prior work experience in child care and are considered unskilled workers (Federas, 2012). Most interns become apprentices in their child care center after their internship.

We expect that the specifics of the Swiss context in the early care and education field influence job resources and job demands and their antecedents among the teaching staff. First, we assume that the hierarchy in Swiss teams may be more pronounced than in German or American teams where lead teachers and assistant teachers share a similar background with regards to education and job tenure (Sosinksy & Gilliam, 2011; Statistisches Bundesamt Deutschland, 2012). Information on the educational levels of lead and assistant teachers in Switzerland is available in Table 1. Second, we consider it likely that the high financial contribution of the parents – that is the result of the large number of private institutions and low subsidies – goes hand in hand with higher expectations on part of the parents with regards to the level of services provided which may, in turn, increase the job demands placed upon the teaching staff by adding additional strain and pressure. Third, the high percentage of children attending child care centers part-time is likely to increase the workload because child care teachers need to spend more time on variety of tasks including completing child assessments and observations,

documentation, and talking to parents etc. The composition of the group will also vary from day to day which may enhance the level of disturbances in the classroom and the need for adjustment on part of the children and the staff.

Research aims

The study was designed to systematically examine the job resources and job demands among child care staff with different educational backgrounds. We begin by describing and comparing perceived job resources and job demands among lead teachers and assistant teachers. We hypothesize that lead teachers will identify more job resources than assistant teachers as a result of their better educational preparation and longer tenure, both of which have been associated with staff's ability to cope efficiently with work tasks. Further, we hypothesize that lead teachers will identify more job demands than the assistant teachers because they have greater responsibility and are required to perform more tasks overall as well as tasks that are more complex. Second, we examine the relative impact of both personal (e.g., job tenure) and structural characteristics (e.g., adequate staffing) on job resources and job demands of lead teachers and assistant teachers.

METHOD

Participants

The present study draws upon data from a larger survey of child care staff conducted in the 201 government subsidized child care centers operating in the city of Zurich during June and July 2013 (Stadt Zürich Sozialdepartement, 2014b). One hundred and fourteen agencies, mostly associations (54%) and limited liability corporations (39%), operated these 201 child care centers. Based on administrative records maintained by the Zurich government, 978 lead teachers and 1,108 assistant teachers were employed in these centers at the time of the survey. In order to recruit child care staff to participate in the study, center directors were asked by email to share the survey with employees either by forwarding an online link or by distributing a hard copy form. The hard copy questionnaires were sent out together with an addressed envelope to ensure that participants could fill in the questionnaire in private and directly send it to us. An accompanying note introduced the study briefly, and emphasized the confidentiality, voluntariness, and anonymity of the answers. Any identifying information, e.g. the child care center, was split from the data after data collection was completed. Participants needed an average of 30 minutes to complete the questionnaire.

Fifty percent of all lead teachers (n=491) and slightly more than one-quarter (28%) of assistant teachers (n=310) working in the centers completed the survey. These staff represented 57 percent of the centers (n=114) and 67 percent of agencies (n=76) operating programs in

Zurich.[14] All participants (n = 64) with more than three missing values were excluded from the analyses.

Measures

A structured questionnaire was developed for this study in order to ascertain information about child care staff personal characteristics, the structural characteristics of the centers in which they were employed, and staff perceptions of their job resources and job demands. The variables included in the questionnaires are described below.

Personal characteristics. Participants were asked to provide information on their age, professional educational background, family status, specifically whether they had children of their own, their job function (e.g., job title, job responsibilities), tenure working in child care and in their current place of employment, and their attitudes towards the benefits of center-based child care.

Structural characteristics. Participants were asked to rate the structural features of the programs in which they were employed. Items were adopted from a questionnaire developed by Schreyer, Brandl, and Krause (2012a) and were modified by the authors based on the results of qualitative interviews with Swiss child care teachers (Blöchliger & Bauer, 2014). Participants were asked to rate each item on a Likert scale ranging from 1 (*not at all fulfilled*) to 5

[14] The participants were asked to specify the name of the child care center. Seventy-two percent of the participants wrote the name of their child care center down and could be assigned to a child care center and an agency.

(*completely fulfilled*). The items addressed each of the nine structural characteristics categories previously identified as influencing the work experience of child care teachers[15]:

(1) Adequate staffing: The five items in this category were designed to gather staff perceptions about whether their center had sufficient numbers of staff, if the staff was appropriately educated and whether they felt the number of children under their supervision was appropriate.

2) *Support by governing agency*: Three items explored whether the center's governing institutions were transparent and forthcoming in providing information and support to child care staff.

(3) *Work space*: These five items focused on space, the existence of appropriate employee rooms for breaks and work away from children and whether noise protection measures and adult-sized furnishing were available at their center.

(4) *Pedagogical approach:* These three items explored whether the child care staff agreed with the articulated pedagogy in the center and whether it was incorporated in center practice.

(5) *Employment conditions*: These six items focused on employment benefits and options the centers offered to their employees, such as flexibility to work part-time and opportunities to advance their education.

(6) *Floaters*: These two items focused on the availability of floaters and substitutes, e.g., "A floater is employed if an employee is sick".

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[15] Items were part of a larger questionnaire on structural characteristics of child care centers.

(7) *Appreciation*: These three items asked about the extent to which child care staff felt they were appreciated by parents, society, and their own family.

(8) *Characteristics of the children*: Participants were asked to provide information on the number and age range of children and the percentage of part-time children.

(9) *Preparation and planning time*: Participants were asked to write down the amount of paid time per week dedicated to preparation and planning work.

A score was computed for each of the nine categories of items by averaging all items that the category comprised. All scales had satisfactory reliability with Cronbach's alphas ranging between .60 and .91. Table 3 lists the Cronbach's alpha for each category.

Job resources. Four subscales of the questionnaire focused on job resources. *(1) Leadership*: To explore this job resource, child care staff assessment of their director was measured using a 20-item leadership scale developed by Schreyer and colleagues (Schreyer et al., 2012a). Participants were asked to rate the director with respect to professional and managerial competence, the transparency of their leadership, how they handled conflicts, and their personal relationship with the director, for example, "My director and I agree on important pedagogical questions." The Cronbach's alpha of .97 for this scale indicates an excellent degree of reliability.

(2) *Team ambiance*: In order to evaluate child care staff assessments of how they worked with other staff, data were collected using 16 items drawn from the Team Climate Inventory (TCI) (Anderson & West, 1998). The scale encompasses vision, participative safety (i.e., having input into the work group and feeling safe), task orientation, and support for innovation. One item read, "We have lively debates about how best to do the work." This scale also had excellent reliability with a Cronbach's alpha of .95.

(3) Job control: To assess child staff perceptions of job control, a Health and Safety Executive (HSE) scale (Bond et al., 2006) was used. This scale included 6 items focusing on the scope of decision-making in tasks and time management during work (e.g., "I have a choice in deciding how I do my work."). This scale had good reliability as represented by a Cronbach's alpha of .79.

(4) Role clarity: To assess the extent to which child care staff can identify their tasks, duties, and responsibilities during daily work (e.g., "I am clear what my duties and responsibilities are), six items were also drawn from the Health and Safety Executive (HSE) scale. The Cronbach's alpha for this scale was .86, indicating a high degree of reliability.

Job demands. The 8 items of the Health and Safety Executive (HSE) Job Demands scale (Bond et al., 2006), and the 4 items of the questionnaire by Schreyer and colleagues (Schreyer et al., 2012a) were used to measure job demands. Quantitative demands included items exploring demands of time and intensity, e.g., "I am pressured to work long hours". The items measuring qualitative demands included ratings about the complexity and difficulty of work, e.g., "Different groups at work demand things from me that are hard to reconcile." Cronbach's alphas of .86 for the quantitative demand scale and .71 for the qualitative demand scale suggest good reliability for both.

Responses to all job resources and job demands items were measured on a scale ranging from 1 (*I do not agree at all*) to 5 (*I completely agree*). The score for both scales was calculated by averaging the values of all items.

A composite score for both the job resources and job demands scales were computed by averaging the four scores for job resources (leadership, team ambiance, job control and role clarity) and the two scores for job demands (quantitative and qualitative demands). All items and

scales were coded in such a way that higher scores represented more favorable personal and structural characteristics for jobs resources, (e.g. greater work experience, more preparation time, a more positive attitude toward center-based child care), and higher degrees of fulfillment (e.g., more appreciation, better work space), while higher scores in job demands imply a more stressful situation.

Analytic Strategy

The purpose of the study was (1) to compare the experience of work among lead teachers and assistant teachers and (2) to assess the relative impact of personal and structural characteristics on job resources and job demands. First, we used descriptive statistics and a series of t-tests to describe and compare the job resources and job demands of lead teachers and assistant teachers. Second, we assessed the influence of personal and structural characteristics on (a) job resources and (b) job demands separately for lead teachers and assistant teachers by performing four hierarchical multiple regressions. In the first step, we introduced the personal characteristics into the model, and in the second step, we added the structural characteristics to the regression models to assess the variance among both sets of variables. All calculations were made using SPSS 21.00. Assumptions of no multicollinearity, normally distributed residuals, and independent errors were met for all regression models.

RESULTS

Descriptive Results

Sixty-one percent of study participants were lead teachers and 39 percent were assistant teachers. Overall, child care staff were relatively young and had little work experience: the

average age of child care staff was 25.95 years (SD = 8.45). On average, the teaching staff has worked for 7.11 years (SD = 6.10) in child care and for 2.99 years (SD = 3.00) at their current center. However, lead teachers were significantly more likely to be older and to have children than assistant teachers. As would be expected, lead teachers also reported higher levels of education, a longer tenure in the field and in their current place of employment. See Table 1.

Table 1: Demographic characteristics of teaching staff

Characteristics	Teaching Staff					95% Cl		Cohen's
	Lead teachers	Assistant teachers	*t*	*df*	*p*	*LL*	*UL*	*d*
Gender								
Female	95.1%	94.4%						
Male	4.9%	5.6%						
Age			18.69	641.023	<.001	8.42	10.40	1.48
Mean	29.69	20.28						
SD	8.34	4.57						
Children	19.3%	2.4%	7.59	542.814	<.001	.13	0.21	0.65
Working experience (months)			25.40	519.433	<.001	85.02	99.28	2.23
Mean		30.46						
SD	122.61	19.12						
	71.94							
Job tenure (months)			10.27	632.808	<.001	18.28	26.93	0.82
Mean		22.07						
SD	44.68	16.31						
	42.03							
Education								
Vocational degree	84.8%	-						
Academic degree	5.6%	-						
In vocational college	-	66.1%						
Other	9.6%	33.9%						

Table 2: Job resources and job demands by job title

	Lead teachers		Assistant teachers					95% CI		Cohen's
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	*P*	*LL*	*UL*	*D*
Job resources	3.91	0.51	3.73	0.52	4.67	711	<.001	0.11	0.26	0.35
Job control	3.30	0.72	2.89	0.74	7.26	709	<.001	0.30	0.52	0.55
Role clarity	4.59	0.52	4.44	0.57	3.57	710	<.001	0.07	0.23	0.27
Team climate	3.80	0.70	3.74	0.76	0.93	696	.354	−0.06	0.16	0.07
Leadership quality	3.95	0.83	3.83	0.83	1.87	689	.061	−0.01	0.25	0.14
Job demands	2.78	0.68	2.58	0.66	4.11	759	<.001	0.11	0.30	0.30
Qualitative demands	3.21	0.72	2.99	0.70	4.17	714	<.001	0.12	0.33	0.31
Quantitative demands	2.37	0.74	2.19	0.72	3.22	756	.001	0.07	0.28	0.23

Job resources and job demands of lead teachers and assistant teachers

Lead teachers and assistant teachers reported similar perceptions of their job resources and job demands: both groups reported high levels of role clarity, low levels of job control and mid-level ratings of team climate and leadership quality. Both groups experienced higher levels of qualitative than quantitative job demands. See Table 2. Lead teachers reported more overall as well as individual job resources and job demands than assistant teachers. T-tests revealed significant differences between teachers and assistant teachers in regard to overall scores of job resources, t (745) = 4.67; $p < 0.001$, $d = .35$, and job demands, t (759) = 4.16, $p < 0.001$, $d = .29$. However, t-tests for each subscale yielded non-significant differences between the two staff groups with respect to team climate ($p = .27$) and leadership ($p = .06$).

Bivariate relationships between personal and structural characteristics and job resources and job demands

Table 3 presents the means and standard deviations for the personal and structural characteristics by job title. Assistant teachers were more likely to report higher values for adequate staffing, floaters, percentage of part-time children, and appreciation, and less preparation and planning time than lead teachers. In order to address our second research question, we calculated bivariate correlations to explore the relationships between personal and structural characteristics and job resources and job demands. Table 4 shows the correlations for the lead teachers and the assistant teachers. The correlation patterns were similar for the two groups except for job tenure, working experience, preparation and planning time, and percentage of part-time children.

Table 3: Personal and structural characteristics assessed by job title

1.1.1.1.1	Lead teachers			Assistant teachers					Range	
Variable	*N*	*M*	*SD*	*n*	*M*	*SD*	*t*	α	Potential	Actual
Personal characteristics										
Job tenure (months)	451	44.68	42.03	286	22.07	16.31	10.27***			1.0–252.0
Working experience (months)	434	122.61	71.94	295	30.46	19.12	25.40***			1.0–528.0
Attitude toward center-based child care	397	3.30	0.83	261	3.38	0.78	−1.27	.72	1.0–5.0	1.0–5.0
Structural characteristics										
Adequate staffing	435	3.75	0.82	275	3.90	0.79	−2.30*	.86	1.0–5.0	1.0–5.0
Support by governing agency	444	3.62	0.96	277	3.73	0.86	−1.54	.87	1.0–5.0	1.0–5.0
Adequate work space	448	3.56	0.78	286	3.67	0.76	−1.90	.62	1.0–5.0	1.2–5.0
Pedagogical framework	433	3.78	0.70	273	3.80	0.74	−0.22	.75	1.0–5.0	1.0–5.0
Employment conditions	446	3.70	0.67	281	3.64	0.67	1.02	.72	1.0–5.0	1.7–5.0
Floaters	417	3.15	1.22	250	3.40	1.16	−2.57*	.91	1.0–5.0	1.0–5.0
Percentage of part-time children	431	3.96	0.91	269	4.25	0.77	−4.33***		1.0–5.0	1.0–5.0
Appreciation	441	3.71	0.64	276	3.94	0.68	−4.55***	.65	1.0–5.0	1.3–5.0
Planning and preparation time (minutes)	419	130.35	140.89	276	48.10	47.70	9.35***			0.0–720.0

Table 4: Intercorrelations among study variables for lead and assistant teachers

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Job resources	-	−.57***	.02	−.08	.29***	.65***	.56***	.44***	.61***	.60***	.36***	.05	.31***	.19**
2. Job demands	−.47***	-	.10	.14*	−.23***	−.58***	−.37***	−.26***	−.42***	−.39***	−.26***	−.06	−.25***	−.02
3. Job tenure	.13**	−.09	-	.71***	−.12	−.10	−.04	−.01	−.11	−.07	−.07	−.02	−.07	.11
4. Working experience	.09	.01	.36***	-	−.13*	−.15*	−.12*	−.13*	−.12*	−.14*	−.09	−.05	−.13*	.23***
5. Attitude toward center-based child care	.25***	−.19***	.16**	.13*	-	.29***	.16*	.16**	.18**	.26***	.06	.03	.09	-.03
6. Adequate staffing	.55***	−.54***	.13**	.06	.31***	-	.58***	.51***	.65***	.62***	.43***	.09	.35***	.19**
7. Support by governing agency	.48***	−.37***	.10*	.07	.27***	.61***	-	.58***	.66***	.65***	.31***	.15*	.42***	.13*
8. Adequate work space	.39***	−.29***	.14**		.10*	.45***	.46***	-	.58***	.55***	.35***	.20**	.31***	.16*
9. Pedagogical approach	.57***	−.41***	.14**	.02	.20***	.67***	.60***	.48***	-	.70***	.47***	.11	.46***	.24***
10. Employment conditions	.57***	−.42***	.17***	.09	.23***	.63***	.64***	.54***	.70***	-	.42***	.14*	.39***	.19**
11. Floaters	.35***	−.38***	.08	.06	.17**	.50***	.45***	.34***	.39***	.44***	-	.14*	.23***	.15*
12. Percentage of part-time children	.19***	−.11*	.02	−.03	.11*	.24***	.21***	.18***	.20***	.27***	.22***	-	.06	-.10
13. Appreciation	.24***	−.14**	.15**	−.02	.07	.32***	.27***	.28***	.34***	.29***	.17**	.22***	-	.02
14. Planning and preparation time	.18***	−.02	.06	.03	.10	.12*	.13*	.14**	.13**	.08	.09	.09	−.04	-

Notes. Intercorrelations for assistant teachers (n = 246–294) are presented above the diagonal, and intercorrelations for lead teachers (n = 362–461) are presented below the diagonal. *$p < .05$. **$p < .01$, ***$p < .001$, - not applicable

Antecedents of job resources

First, we examined the influence of the personal characteristics and structural characteristics on job resources as shown in Table 5. Personal characteristics accounted for seven percent of the variance in job resources among lead teachers and for eight percent of the variance in job resources among the assistant teachers. Attitude towards center-based child care was a significant predictor of job resources for both groups, with those child care staff reporting a more positive attitude experiencing greater job resources. The structural characteristics contributed an additional 36% (lead teachers) and 44% (assistant teachers) to the variance of job resources. For the lead teachers, significant predictors in the final model were employment conditions ($\beta = .24$, $p < .001$), pedagogical approach ($\beta = .22$, $p < .01$), adequate staffing ($\beta = .16$, $p < .05$) and preparation time ($\beta = .09$, $p < .05$). For the assistant teachers, the significant predictors were adequate staffing ($\beta = .32$, $p < 0.001$), pedagogical approach ($\beta = .18$; $p < 0.05$), employment conditions ($\beta = .17$; $p < 0.05$), and positive attitude toward center-based child care ($\beta = .11$; $p < 0.05$). When child care staff reported higher scores for these structural characteristics, they experienced greater job resources. Both models showed a good overall fit for lead teachers (adjusted $R^2 = 41\%$) and for assistant teachers (adjusted R^2=51%).

Antecedents of job demands

Next, we examined the influence of personal and structural characteristics on job demands as shown in Table 6. As with the previously described regressions, the personal characteristics which were entered in the first step explained a small amount of job demands variance (3% for the lead teachers, and 6% for assistant teachers). Only a positive attitude towards center-based child care was a significant predictor of demands, with child care staff less

positively disposed experiencing higher job demands. Again, the structural characteristics introduced in the second step explained a much higher variance in job demands with an additional 29% for lead teachers and assistant teachers. For the final model, adequate staffing ($\beta = -.41$, $p < 0.001$) and floaters ($\beta = -.14$, $p < 0.01$) were significant predictors of job demands for the lead teachers and only adequate staffing ($\beta = -.52$, $p < 0.001$) of the job demands for assistant teachers. When child care staff reported lower levels of adequate staffing and lead teachers reported fewer floaters, they experienced more job demands. Again, both models showed a good overall fit for the lead teachers (adjusted R^2=31%) and for the assistant teachers (adjusted R^2 = 32%).

Table 5: Multiple hierarchical regressions predicting job resources, by job title

	Teaching staff			
	Lead teachers		Assistant teachers	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.07***		.09***	
Job tenure		.09		−.04
Attitude toward center-based child care		.24***		.28***
Step 2	.36***		.44***	
Job tenure		.01		.04
Attitude toward center-based child care		.08		.11*
Adequate staffing		.16*		.32***
Support by governing agency		.03		.14*
Adequate work space		.04		−.03
A pedagogical approach		.22**		.18*
Employment conditions		.24***		.17*
Floaters		.04		.03
Percentage of part-time children		.00		−.04
Appreciation		.02		−.02
Planning and preparation time		.09*		.03
Total R^2	.41***		.51***	
n	397–448		250–295	

*$p < .05$. **$p < 0.01$. ***$p < 0.001$

Table 6: Multiple hierarchical regressions predicting job demands, by job title

	Teaching staff			
	Lead teachers		Assistant teachers	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.04**		.06**	
Job tenure		.04		.11
Attitude toward center-based child care		−.20***		−.21**
Step 2	.29***		.29***	
Job tenure		.06		.05
Attitude toward center-based child care		−.03		−.06
Adequate staffing		−.41***		−.52***
Support by governing agency		.01		−.04
Adequate work space		−.02		.10
A pedagogical approach		−.03		−.07
Employment conditions		−.11		−.01
Floaters		−.14**		.00
Percentage of part-time children		.05		−.01
Appreciation		.05		−.03
Total R^2	.31***		.33***	
n	397–461		250–300	

**$p < 0.01$. ***$p < 0.001$

DISCUSSION

The present study advances the knowledge about job resources and job demands among lead teachers and assistant teachers working in early care and education. Three main findings emerged from the study: (1) Lead teachers reported slightly higher job resources and job demands than assistant teachers; (2) Structural characteristics of child care centers were found to predict child care staff's perceived job resources and job demands in particular; and (3) Similar antecedents were identified for perceived job resources and job demands among child care staff with different education levels.

Job demands and job resources of lead teachers and assistant teachers

We hypothesized that lead teachers would be more likely to experience greater job resources and greater job demands than assistant teachers given the differences in their *roles, responsibilities, job tenure*, and *formal training*. Although perceived job resources and job demands were somewhat higher among lead teachers than assistant teachers, levels of perceived team climate and leadership quality did not differ between the two groups. This seems understandable because lead teachers and assistant teachers share teams and the directors guiding them which appears to resonate similar with both groups.

One interpretation of the higher role clarity, job control, and quantitative and qualitative demands of lead teachers compared to assistant teachers may result from the different roles and responsibilities both groups perform. Contrary to previous findings that roles and duties are not hierarchically distributed according to job title in child care (Kontos & Stremmel, 1988; Whitebook et al., 1981), the present findings point to some kind of hierarchical arrangement. There are two possible explanations for these inconsistent findings. First, this hierarchical arrangement may reflect a shift toward professionalism in child care (Miller, Dalli, & Urban,

2012). According to recent studies assistant teachers indeed perform different roles than lead teachers, e.g., assistant teachers provided less instructional support than lead teachers (Curby et al., 2012, Sosinsky & Gilliam, 2011). Second, the hierarchy may be ascribed to the different roles of assistant teachers in Swiss versus American child care centers. Whereas Swiss assistant teachers are in a formal education arrangement including specific protection and support, but also significantly lower salaries, assistant teachers in the US are a normal part of the workforce (Curby et al., 2012; Flitner, 2009; Kontos & Stremmel, 1988). Another reason why job resources and job demands are higher for lead teachers may be their higher level of formal education and more work experience. Both may enable child care staff to cope more efficiently with work tasks and responsibilities and hence to create job resources, e.g., role clarity, and to cut down job demands, e.g., time pressure.

Apart from these differences both groups reported low job control. While job control has been identified as an essential predictor of worker's well-being across occupations (e.g., Laschinger, Grau, Finegan, & Wilk, 2012) and for child care staff in particular (Koch et al., 2015; Royer & Moreau, 2015; Rudow, 2004), the present findings suggest that its level is limited in child care work. This low level of job control may be attributed to the child care work itself which requires a certain daily routine and repetition.

Personal antecedents of job resources and job demands

Overall, structural characteristics were better predictors of job demands and resources than personal characteristics, which is in keeping with a number of previous studies, e.g. Jorde-Bloom, 1988, Rudow, 2004, Schreyer & Krause, 2016, Viernickel et al., 2014. Only one personal characteristic, the *attitude toward center-based child care*, predicted job resources.

Prior studies yielded mixed results about the role of personal characteristics for the job resources and job demands of child care staff. In a study by Royer and Moreau (2015) job tenure did not predict child care teachers' well-being, whereas in a study by Stremmel et al. (1993) personal characteristics such as age and education were shown to contribute to child care teachers' emotional exhaustion. Moreover, motivation was shown to be the main reason for choosing the profession (Fenech et al., 2009) as well as the single best predictor of child care staff's intent to stay in the profession (Torquati et al., 2007). In contrast, the results of our study suggest that personal characteristics are of lesser importance for the working experience of teaching staff. Given the profession's relatively low social status and poor compensation, however, motivation appears to have some influence on job resources and job demands of child care teachers.

Structural antecedents of job resources and job demands

The results reported here indicate that similar patterns of structural characteristics, such as a pedagogical approach and adequate staffing, shape the job resources and job demands of all child care staff, whether they are lead teachers or assistant teachers. Nonetheless, consistent with prior research some variation by role did surface in this investigation (Curby et al., 2012; Sosinsky & Gilliam, 2011; Stremmel et al., 1993).

The availability of *floaters* and dedicated *time for preparation* were of greater importance for lead teachers' job experience than for that of assistant teachers.. In contrast, perceived *adequate staffing*, *support by governing agency*, and a *positive attitude toward center-based child care* were of greater importance for assistant teachers' perception of job resources as compared to lead teachers. One way to account for these differences are the different roles and responsibilities lead teachers and assistant teachers presumably perform (Sosinsky & Gilliam,

2011). A second way to account for these differences are the potentially different needs of assistant teachers and lead teachers. Due to the lack of formal training and work experience, assistant teachers may need more support and protection which is presumably reflected in the importance of the *support by governing agency* and *adequate staffing* for their job resources.

Professionalism

A *pedagogical approach*, favorable underlying *employment conditions*, sufficient *preparation and planning time* (for lead teachers), *adequate staffing*, *support by governing agency* (for assistant teachers) and *positive attitude toward center-based child care* are all significant predictors of job resources. Each of these variables, whether structural or personal, are expressions of professionalism in child care work (Caulfield, 1997; Hordern, 2014). Sufficient preparation and planning time enables the child care staff to adequately plan, prepare, and document their work which benefits children and child care staff alike (Sosinksy & Gilliam, 2011). Viernickel et al. (2014) suggest that child care teachers must compensate for limited preparation and planning time by working overtime and/or at home which is likely to increase job demands. Prior research points to the benefits of favorable underlying employment conditions for work-related attitudes, health, and behavior of child care staff (Stremmel et al., 1993; Schreyer & Krause, 2016; Viernickel et al., 2014) that promote professionalism and facilitate the daily work of the child care staff. Viernickel et al. (2014) found that the mere existence of an articulated pedagogical approach improves the work performance of child care staff. Therefore, the stipulation of a written pedagogical approach in Swiss child care centers appears to benefit the child care staff. Finally, adequate staffing appears to be the necessary prerequisite that supports job resources and lowers job demands (OECD, n.d.).

The characteristics *appreciation*, *percentage of part-time children*, an *adequate work space*, and *floaters* did not predict job resources despite the fact that prior research suggests that they contribute to the working experience of child care staff (Koch et al., 2015; Machmutow et al., 2013; Viernickel et al., 2014). The other structural characteristics assessed in our study appear to outweigh their influence. These contributors to child staff perception of a better work environment point to areas ripe for intervention by policy makers, trainers and center directors. That many of these same antecedents to job resources are also known to be associated with high-quality child care (Phillipsen, Burchinal, Howes, & Cryer, 1997; Shpancer, 2006), suggests that both child care teachers and children benefit from the same center characteristics.

Adequate staffing

Aspects of staffing – inadequate staffing and an insufficient number of floaters - appear to contribute overwhelmingly to perceived levels of job demands and outweigh the influence of all other structural characteristics. The absence of *adequate staffing* increases levels of perceived job demands and decreases levels of perceived job resources. As many researchers have found, working without sufficient numbers of adequately trained co-workers negatively impacts child care teachers' experience at work (e.g., Baumgartner et al., 2009; Rudow, 2004; Viernickel et al., 2014) and fuels higher turnover (Whitebook & Sakai, 2003). Adequate staffing refers to the perceived adequacy of the number and qualification of staff in relation to the number of children in daily practice; it does not represent the required child-to-staff ratio in a child care center. The latter may not be met in daily practice and/or may be met but still be perceived as inadequate by child care staff. Whereas the immediate work with the children cannot be postponed, other tasks and responsibilities, such as team meetings and preparation, can. This impedes the creation of

job resources and their structural antecedents, such as the implementation or development of the pedagogical approach, which potentially buffer job demands (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Van den Broeck et al., 2008). While the consequences of adequate staffing seem rather obvious, the reasons why staff assess it to be inadequate is less obvious given that official regulations require a particular child-to-staff-ratio in all institutions across the board. Possible explanations include the high absenteeism rates in center-based child care (Gørtz & Andersson, 2013) and job vacancies (Sumsion, 2007). Better child-to-staff ratios are also an important predictor of high-quality child care (Huntsman, 2008; NICHD Early Child Care Research Network, 2002). Again, this finding suggest a tight link between child care quality and working conditions of child care teachers.

Adequate staffing has a greater influence on the experience of work of *assistant teachers* than it does on that of the lead teachers. One possible explanation is that assistant teachers may spend more time directly with the children than lead teachers who attend to planning, reporting and other duties. Maslach and Pines (1977) found that long working hours spent with children had an adverse effect on child care teachers' stress levels and attitude. Additionally, more preparation and planning time helped serve as a job resource that may buffer the effects of inadequate staffing for child care teachers. Moreover, assistant teachers may rely more on well-educated and experienced staff given their own limited work experience and education.

Limitations

All data are self-reports from the lead teachers and assistant teachers. This may bias the results due to common method variance, as relationships between variables may be inflated (Podsakoff, MacKenzie, & Podsakoff, 2012). Future research examining the child care work

environment should augment teachers' perspectives with information from different sources such as reports by child care center directors as well as observations conducted by independent observers. In addition, the survey was correlational, and thus caution should be exercised in assuming causal relationships between variables. To address this issue, longitudinal and observational studies should explore whether the variables identified as influencing job resources and job demands lead to behavioral consequences for child care staff with respect to health outcomes and turnover as well as to differences in the quality of staff child interactions.

The study represents Swiss-specific conditions which is why the findings should be interpreted cautiously with regard to other communities or countries. In Zurich, for example, there is a legal requirement that a child care center needs to develop a pedagogical approach, but this may not be the case in child care centers operating in different policy contexts. Nonetheless, the importance of the contribution of a pedagogical approach to job resources in the Swiss context suggests its promise as an important legal requirement in other environments.

Finally, even though the questionnaire covered a broad range of personal and structural characteristics, its scope was not exhaustive. Most notably, wages, which have been identified repeatedly as influencing turnover among child care staff (e.g., Gable et al., 2007; Whitebook et al., 1989; Whitebook & Sakai, 2003) and economic insecurity (Whitebook et al., 2014) were excluded from this analyses due to missing values. Further studies are needed to investigate how wages and other aspects of staff compensation may influence job resources and job demands among child care teachers. Moreover, the results imply that work quality and care quality are closely intertwined, warranting future research investigating their relationship.

Conclusion and policy implications

The study results provide important information for addressing the needs of lead teachers and assistant teachers and for promoting a working environment in child care centers that fosters job resources. Job resources and job demands of child care teachers are more strongly influenced by structural than by personal antecedents. This implies that the working conditions and the organization of the workplace should be targeted for continuous improvements with particular attention to those working conditions that foster professionalism among child care staff, such as the importance of a pedagogical approach, employment conditions, and preparation and planning time. Consequently, child care center managers, governing agencies, and policy makers should continuously assess and improve working conditions, offer further education and support a continuous dialogue about pedagogical issues in daily work. In addition, requiring and enforcing low child-to-staff ratios in daily practice should be a priority. Various measures, such as employing more staff or floaters, can be taken in order to allow for more time for preparation and planning for child care teachers and lift the burden of continuous interaction with children from assistant staff. Improving the structural features in child care centers can help to realize the goal of a stable, skilled, and experienced child care workforce providing high-quality child care.

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6. Correlates of burnout symptoms among child care teachers – A multilevel modeling approach

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Abstract

Burnout is a widespread occupational stress outcome among child care teachers jeopardizing care quality and hence children's development. This study aimed at exploring the relationships between individual and organizational level characteristics and burnout levels because these nested associations are one overlooked question in child care workforce research. The included characteristics reflect the six work-life areas: control, reward, workload, community, fairness, and values. We applied a mixed effects model with data at the individual level (level 1) and child care center level (level 2) using assessments of 220 child care teachers and their 59 directors working in 59 child care centers in a Swiss community. We found that 19% of variability of burnout symptoms was at the child care center level. Further, the analysis yielded that lower job control and reward on level 1 and higher workload on level 2 were associated with higher burnout levels among child care teachers.

Keywords

Burnout symptoms - child care teachers - six work-life areas - two-level design - individual level - child care center level

Introduction

Burnout manifests as severe emotional, mental, and physical exhaustion due to long-term stressful work situations involving emotional demands (Schaufeli & Greenglass, 2001). The number of child care teachers suffering from burnout symptoms or at risk for burnout is high: international studies report numbers ranging from 10% to 56% (Koch et al. 2015; Løvgren, 2016; OECD, n.d.). Hence, child care teachers appear to be particularly susceptible to burnout (Barford & Whelton, 2010; Jungbauer & Ehlen, 2015; Koch et al., 2015; Løvgren, 2016; Maslach & Pines, 1977). The reasons for this susceptibility may be that child care work is typical "people work" that involves long hours of direct intimate contact with children, staff, and administration (Hildebrand & Seefeldt, 1986; Maslach & Jackson, 1981). Studies suggest that stress and exhaustion among child care teachers increase gradually with the amount of time spent with children on the floor (Løvgren, 2016; Maslach & Pines, 1977). Additionally, child care teachers work long hours and often face inadequate working environments and conditions (Baumgartner et al., 2009; OECD, n.d.; Whitebook et al., 2014). Studies report that breaks are often too short, non-existent, or spent with sleeping children (Kontos & Stremmel, 1988; Schreyer et al., 2014; Stremmel et al., 1993). Moreover, time for planning and preparation is insufficient, children's groups are too big, staffing levels are inadequate, and wage and benefits are low (OECD, n.d.; Schreyer & Krause, 2016; Viernickel et al., 2014; Whitebook et al., 2014). Intense emotional work combined with long working hours and inadequate working conditions may particularly deplete the energy and resources of child care teachers and foster the development of burnout symptoms.

Stressed, overworked, and burned-out child care teachers may withdraw emotionally from their work and the children (Curbow et al., 2000; Maslach et al., 2001; Whitebook et al.,

2014). Hence, child care teachers are less responsive to children's needs and less able to engage in compassionate and nurturing interactions with the children (Curbow et al., 2000; Whitebook et al., 1981). Additionally, burnout is associated with absenteeism, turnover intention, and turnover (Alarcon, 2011; Borritz, 2006; Leiter & Maslach, 2009). These attitudinal and behavioral burnout correlates further undermine care quality (Barford & Whelton, 2010; Goelman & Guo, 1998; Hildebrand & Seefeldt, 1986; Leiter & Maslach, 2009; Van Bogaert, Kowalski, Weeks, Van Heusden, & Clarke, 2013) by disrupting the relationship, attachment, and trust between children and child care teachers, which play a critical role in the learning processes and social development of young children (Ahnert, Pinquart, & Lamb, 2006; Bridges et al., 2011; National Research Council and Institute of Medicine, 2000). In sum, the consequences of burned-out child care teachers may be detrimental because child development is at stake (Manlove, 1993). Therefore, this article aims at deepening the understanding of burnout symptoms among child care teachers.

Burnout

Freudenberger (1974) and Maslach (1976) described burnout first in the seventies for professionals working in human services. Four decades later, an ample research body exists having investigated the phenomenon, its correlates, reasons, consequences, and prevention in and outside human services (Alarcon, 2011; Borritz et al., 2006). Despite these efforts, burnout rates among professionals in and outside human services remain high (Leiter, Bakker, & Maslach 2014). Burke (2015) points out that contemporary worklife is shaped by greater uncertainty and financial challenges because the consequences of the financial crisis in 2008 have taken their toll

on professionals in the form of increased stress levels and burnout. Due to budget cuts in the public sector, this development is particularly pronounced in human services, such as child care.

While researchers agree that burnout is a cumulative, affective stress reaction to ongoing occupational strain and demands due to "a fundamental disconnect between the worker and the workplace" (Leiter & Maslach, 2004, p. 91), they disagree on a precise definition of burnout (Borritz et al., 2006; Maslach & Jackson, 1981; Maslach et al., 2001; Pines & Aronson, 1988; Shirom & Melamed, 2006). In the approach most widely applied, Maslach et al. (2001) define burnout drawing on the three dimensions *emotional exhaustion*, *cynicism (*also *depersonalization)*, and *inefficacy (*also *reduced accomplishment)*: Emotional exhaustion refers to feelings "of being overextended and depleted of one's emotional and physical resources" (Leiter & Maslach, 2004, p. 93), cynicism to "a negative, callous, or excessively detached response to various aspects of the job" (Leiter & Maslach, 2004, p. 93), and inefficacy to "feelings of incompetence and a lack of achievement and productivity in work" (Leiter & Maslach, 2004, p. 93). Maslach et al. (2001) emphasize that all three dimensions are necessary to capture burnout.

On the other hand, a handful of researchers (Kristensen et al., 2005; Pines & Aronson, 1988; Schaufeli & Greenglass, 2001; Shirom & Melamed, 2006) propose a definition of burnout drawing on only the energetic dimension, *emotional exhaustion*, while conceptualizing cynicism and inefficacy as consequences rather than characteristics of burnout. For example, Shirom (1989) describes burnout as "a combination of physical fatigue, emotional exhaustion, and cognitive weariness" (p. 33). This approach is corroborated by the finding that the three dimensions proposed by Maslach et al. (2001) are associated with different precursors and correlates (Alarcon, 2011; Kristensen et al., 2005). Both definitions share the idea that the

energetic dimension, emotional exhaustion, is the core of burnout (Kristensen et al., 2005; Løvgren, 2016; Maslach et al., 2001; Shirom, 1989). Moreover, emotional exhaustion is the dimension most strongly related to teaching (Näring et al., 2012) and especially pronounced among child care teachers (Jungbauer & Ehlen, 2015; Rentzou, 2012). Therefore, we focus on symptoms of emotional exhaustion in this study.

The Areas of Worklife by Maslach and Leiter in the child care workforce

Maslach and Leiter (1997) identified six key worklife areas in which a mismatch between individuals and their work environment contributes to burnout: *workload*, *control*, *reward*, *community*, *fairness*, and *values*. For this study, we draw on these six worklife areas. Leiter (2015) points about that "every time and place realizes these themes in distinctive ways" (p. 224). Therefore, we apply the AWL to the child care workforce drawing on the extant research literature.

The worklife area *control* reflects the extent of authority, autonomy, and decision-scope an employee has to pursue at work according to her or his own ideas and wishes (Leiter & Maslach, 2004). Experienced role conflict or role ambiguity may aggravate control problems (Leiter & Maslach, 2004). Hence, people are strained and upset if they feel themselves committed to certain outcomes but lack the control to accomplish them (Maslach et al., 2001). For child care teachers, researchers identified job control as a major job resource and the associated constructs role conflict and role ambiguity as major stressors (Khan, 2009; Manlove, 1994; Rudow, 2004).

The worklife area *reward* reflects whether professionals feel appropriately recognized for their work, either in financial or social terms or both (Maslach et al., 2001). In child care work,

researchers found that insufficient rewards in terms of low wages and few benefits constitute major stressors among child care teachers worldwide, leading to various negative outcomes such as burnout and turnover (Goelman & Guo, 1998; Rudow, 2004; Whitebook et al., 1989; 2014).

The worklife area *workload* reflects whether employees either experience an excessive overload—too many demands in relation to too few resources—or have to perform complex tasks that are not aligned with skills and experience (Leiter & Maslach, 2004; Maslach & Leiter, 1997). Both overload and excessive demands may deplete the employees' energy if they lack sufficient resources to cope with the demands. As a result, they may become drained and exhausted (Leiter & Maslach, 2004). In child care, the number of child care teachers in relation to the number of children (*staffing levels)* is a striking indicator for workload: The workload continuously increases with a higher child-to-adult ratio (Maslach & Pines, 1977). Earlier studies have corroborated the close relationship between low adult-child ratios and increased stress levels of child care teachers (Maslach & Pines, 1977; OECD, n.d.; Viernickel et al., 2014).

The worklife area *community* reflects whether employees feel socially connected and supported at work by either their co-workers or directors (Leiter & Maslach, 2004). Unresolved or constant conflicts are likely to contribute to feelings of frustration and hostility (Maslach et al., 2001). Research has shown that support by co-workers and directors was negatively correlated to burnout symptoms among child care teachers (Barford & Whelton, 2010; Rudow, 2004; Viernickel et al., 2014).

The worklife area *fairness* reflects the extent to which workers feel treated fairly at work, e.g., concerning promotions, evaluations, and work procedures, as well as respected (Leiter & Maslach, 2004). Unfair and disrespectful treatment, e.g., missing out on a promotion they felt entitled to, may be exhausting and upsetting (Leiter & Maslach, 2004). For the child care

workforce, studies indicate that unfair treatment, for example in work schedules and task distribution, is a major stressor (Khan, 2009).

The last worklife area *values* reflects how closely the organization's goals are related to the objectives and beliefs of the workers (Leiter & Maslach, 2004). Employees are likely to feel distressed when they experience a conflict of values at work that, in turn, may increase burnout symptoms (Leiter & Maslach, 2004). In child care work, the pedagogical framework epitomizes the values of the child care center. Studies have shown that a pedagogical framework per se and identification with it act as a resource among child care teachers (Blöchliger & Bauer, 2016; Viernickel et al., 2014).

Study aim

Halbesleben and Leon (2014) summarized the state of burnout research examining organizational level characteristics and found that these characteristics have contributed to individual burnout levels beyond and above individual level characteristics. For example, studies have revealed that average work hours (Park & Lake, 2005) and work environment dynamics (Li et al., 2013) on a hospital level were related to individual burnout levels among nurses. In addition, characteristics on a ward level, i.e., staff adequacy, leadership, and support for nurses, were associated with individual burnout levels among nurses (Leineweber et al., 2014).

To date, no study has explored the relationships between organizational level characteristics, e.g., the child care center level, and burnout levels among child care teachers. The studies cited to apply the AWL to the child care workforce have examined job characteristics only based on self-reports representing the individual level. Moreover, Goelman and Guo (1998) and Viernickel et al. (2014) assume that child care teachers share levels of

experienced burnout symptoms in a child care center. Therefore, the present study aims at addressing these research gaps by (1) assessing whether and to what extent burnout symptoms among child care teachers cluster within child care centers and (2) exploring the relationships between both individual and organizational level characteristics and burnout symptoms among child care teachers. Thereby, the individual and organizational level characteristics reflect the six worklife areas proposed by Maslach and Leiter (1997).

Method

Procedure

The study sample draws from a larger survey conducted in all publicly co-financed child care centers in a Swiss community in 2013. The survey invited all child care teachers and their directors to participate in the survey by asking the center directors by email to fill out the directors' questionnaire and to share the child care teachers' questionnaire with employees. The directors could choose to either forward the link to the online questionnaire or order hard copy forms. On average, the participants needed 30 minutes to complete the questionnaire.

An accompanying note briefly introduced the study and emphasized the confidentiality and voluntariness of the answers. Participants were asked to consent before filling out the questionnaire. The hard copy questionnaires were sent out together with an addressed envelope to ensure that participants could complete the questionnaire in private and send it to us directly. After data collection was completed, we ensured confidentiality by isolating from the database all personally identifying information, i.e., the names of the child care centers. All identifying records and notes were destroyed in accordance with established research ethics protocols. To be

able to match the data of child care teachers and their directors, we substituted the child care center variable with a variable containing a random number.

Participants

For the present study, we included only child care teachers who specified the name of their child care center and whose directors participated in the survey as well. In total, the analysis comprised assessments of 220 child care teachers and their 59 directors who work in 59 child care centers. On average, a child care center has 3.73 participants with child care center sizes ranging from 1 to 11 participants.

On average, child care teachers were 30 years old (*SD* = 7.87). The majority (64%) was between 20 to 30 years old. They had been working in child care for an average of 10.34 years (*SD* = 5.82) and at the child care center included in this study for an average of 3.51 years (*SD* = 3.36*)*. Twenty-four percent of the participants had children and 95% were women. Most participants (79%) completed a vocational apprenticeship as a child care teacher, and only 19% held an academic degree.

The child care center directors were, on average, 40 years old (*SD* = 9.65). More than half of the directors (56.4%) were older than 40 years. On average, they had been working in child care for 19.01 years (*SD* = 7.98), as a director for 7.76 years (*SD* = 6.26) and at the child care center included in this study for 7.68 years (*SD* = 6.04). Thirty-five percent of the child care center directors had children, and 95% were women. Eighty-five percent completed a vocational apprenticeship as a child care teacher, 35 % held an academic degree, and 91% had an additional management qualification.

Measures

Dependent variable: Burnout symptoms

The four items of the *Copenhagen Psychosocial Questionnaire II* (COPSOQ II) measured the burnout symptoms experienced among child care teachers (Pejtersen, Kristensen, Borg, & Bjorner, 2010). The items stem from the *Copenhagen Burnout Inventory* (CBI) (Kristensen et al., 2005) which is based on the definition of burnout where only one, the energetic dimension, constitutes burnout. The items covered how tired and physically and emotionally exhausted the participants had felt during the last four weeks, e.g., "*How often have you been emotionally exhausted?"* The answering scale ranged from *1 (never)* to *5 (always)*. The Cronbach's alpha of .87 suggests that the scale has good reliability.

Independent variables

To reflect processes in child care work, we choose to employ instruments specific to the child care workforce instead of the *Areas of Worklife Scale* (Leiter & Maslach, 2002). The scales that measured the variables reward, values, the leadership aspect of community, and workload were particularly developed for child care teachers which assures high validity for this group (Schreyer et al., 2012a; Schreyer, Brandl, & Krause, 2012b). Well-validated scales assessed control and the team aspect of community reflecting specific resources for child care teachers, such as autonomy (control; Bond et al., 2006) and team collaboration (team climate; Anderson & West, 1998). The following classification into individual and organizational level measures was based on the degree of construct's variance between and within child care centers (details see section on data aggregation).

Individual level measures

Age. We asked the participants to indicate the year they were born.[16] ***Control.*** The six items of the *HSE job control scale* assessed the decision-scope range child care teachers had at their workplace, e.g., "*I have a choice in deciding how I do my work*." (Bond et al., 2006). ***Reward.*** Two items of the *AQUA-questionnaire* (Schreyer et al., 2012a) asked to what extent the participants were satisfied with their pay, e.g. "How satisfied are you with your pay compared to the pay in other child care centers?" The response scale for control and reward ranged from 1 *(I do not agree at all)* to 5 *(I completely agree)*. Both scales showed acceptable reliability with Cronbach's alphas of .77 for control and .74 for reward.

Organizational (child care center) measures

Assessments of child care teachers. ***Community.*** The questionnaire addressed two aspects of community: support by team members and support by directors. The 16 items of the *Team Climate Inventory (TCI)* (Anderson & West, 1998) measured to what extent the child care teachers felt supported by their team members and safe in their team, e.g., "*We support each other in new ideas and improved work procedures.*" The 20 items of the leadership quality scale of the AQUA-questionnaire (Schreyer et al., 2012a) measured the support of the child care center directors, e.g., "My director supports me if problems arise at work." ***Fairness.*** Six items from the AQUA questionnaire (Schreyer et al., 2012a) assessed whether child care teachers perceived the employment conditions (e.g., the working schedule, further education opportunities) as fair, e.g.,

[16] Other control variables, e.g., working experience and formal qualification, were not significantly related to burnout levels and hence excluded from the analyses.

"*The work schedule is fair*." ***Values.*** Three items of the AQUA-questionnaire (Schreyer et al., 2012a), slightly adapted to the Swiss context, asked the participants whether they identified with the pedagogical framework of the child care center and whether the framework was implemented in daily practice.

Assessments of child care directors. ***Workload.*** The director's questionnaire gathered information about the workload of the child care teachers focusing on adequate staffing, e.g., "*The child-to-staff ratio is low*." The statements were based on the on the AQUA-questionnaire (Schreyer et al., 2012b) and slightly adapted to the Swiss context.

For all scales, the participants reported their agreement with the statements on a Likert scale ranging from 1 *(I do not agree at all)* to 5 *(I completely agree)*. All scales showed satisfactory to excellent reliability with Cronbach's alphas of .60 for workload, of .97 for community, of .75 for fairness, and of .79 for values. We computed the score for each scale by averaging the sum of the items by the respective number of items. While the six worklife areas by Maslach and Leiter reflect a mismatch between individuals and their work environment, it is assumed that higher control, reward, community, fairness, and values are associated with lower burnout levels and lower workload is associated with lower burnout levels. High scores in workload meant a low workload because the workload items were reverse, e.g., "the child-to-staff ratio is low".

Data analysis

We analyzed the data using the statistical software SPSS, version 22, for descriptive purposes, and the *nlme-package* of the open source statistical software R (Bliese, 2016; Pinheiro et al., 2016) for aggregation purposes and multilevel modeling.

Multilevel modeling

Because the study included nested data, i.e., child care teachers in child care centers, the statistical analysis needed to reflect this structure. In line with Barr, Levy, Scheepers, and Tily (2013), we applied a linear mixed-effects model with maximal random effects to regress the burnout levels on the six worklife areas. Maximal random effects mean including random slopes for the independent variables, which allows the associations between the independent and dependent variables to vary across child care centers. We included random effects into the model based on the criteria of model convergence and variance size of the random effects. As long as the model did not converge, we simplified it further. Finally, we fit a model containing the random effects with the largest variance sizes. This kind of model accounts for the nested structure of the data while detecting random effects with minimal power even in small samples (Barr et al., 2013). For the analysis, we centered the included variables around the grand-mean, as recommended by Raudenbush and Bryk (2002).

The equation for the linear mixed-effects model we tested was:

Level 1: $$BU_{ij} = \beta_{0j} + \beta_{1j}(AG_{ij}) + \beta_{2j}(CO) + \beta_{3j}(RE) + r_{ij}$$

Level 2: $$\beta_{0j} = \gamma_{00} + \gamma_{01}(WO_{ij}) + \gamma_{02}(CM) + \gamma_{03}(FA) + \gamma_{04}(VA) + u_{0j},$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

In this model, BU stands for burnout, β_{0j} stands for the intercept, $\beta_{1j}(AG_{ij})$ stands for age, $\beta_{2j}(CO)$ stands for control, $\beta_{3j}(RE)$ stands for reward, r_{ij} stands for the error term of the level 1 intercept, the β_{xj} stand for the slope coefficients, γ_{00} stands for the intercept of the level 2 regression, $\gamma_{01}(WO_{ij})$ stands for workload, $\gamma_{02}(CM)$ stands for community, $\gamma_{03}(FA)$ stands for

fairness, γ_{04}(VA) stands for values, γ_{0x} stands for the slope coefficients, and u_{0j} stands for the error term for the level 1 intercept. The subscripts *ij* refer to the *i*th child care teacher in the *j*th child care center.

The aim of the study was to understand the clustering of burnout symptoms within child care centers by exploring the variability in burnout levels accounted for by the different levels (individual and organizational) and to identify the individual and organizational level characteristics significantly associated with burnout levels. Therefore, we fitted three models: the null model (unadjusted), model 1 adjusted for the individual level variables, and model 2 adjusted for the individual and organizational level variables. Hence, we calculated variance partition coefficients for all three models and compared them to each other. Differences in the variance coefficients between the null model and model 1 as well as models 1 and 2 reveal the amount of explained variance by the independent variables on the child care teacher and child care center level.

Data aggregation

For the analysis, we aggregated assessments of child care teachers (individual level, level 1) to the child care center level (organizational level, level 2). We choose the child care center as the organizational level because child care teachers working at a child care center usually work closely together, e.g., they share space, staff, and supervised children, and they work under the same auspice and director(s). To aggregate self-reports to a higher level, child care teachers need to share perceptions of the constructs to a certain extent. In line with prior researchers' recommendations (Castro, 2002; James, Demaree, & Wolf, 1993; Schneider, White, & Paul,

1998), we based the aggregation of the AWL variables to the child care center level on the extent of the *variance between* and the *agreement within child care centers.*

For the between-child care center variance, the intra-class correlation coefficient *ICC[1]* examined the extent of variance in the target variable on the individual level explained by child care center properties, and the intra-class correlation coefficient *ICC[2]* examined the reliability of the child care center means (Bliese, 2002; Castro, 2002). For the within-child care center agreement, the $r_{wg(j)}$ reflected the within-group agreement in each child care center (Castro, 2002, James et al., 1993). Thresholds with a minimum of .12 for the *ICC[1]* (Schneider et al., 1998), a minimum of .70 for the *ICC[2]* (Castro, 2002), and a minimum of .70 for the $r_{wg(j)}$ (Castro, 2002; James et al., 1993) indicate that data aggregation to a higher level is justified.

Results

The aim of the study was to better understand burnout symptoms among child care teachers by (1) exploring the clustering of burnout symptoms within child care centers and (2) identifying the individual and organizational level characteristics significantly related to burnout levels among child care teachers.

First, we explored the data by means of descriptive statistics. The same percentage of child care teachers—one in five—reported that they suffered from burnout symptoms *often* respectively *rarely*; two in five child care teachers reported that they suffered from burnout symptoms *sometimes*. The mean scores of burnout symptoms' frequency were 1.5–4.5 (range: 1 to 5) across child care centers. Table 7 presents the means, standard deviations, bivariate correlations on level 1 and level 2, and Cronbach's alphas of all study variables.

Table 7: Means, standard deviations and intercorrelations among study variables

Variables	*M*	*SD*	1	2	3	4	5	6	7	8
Level 1										
1. Burnout symptoms	3.02	0.78	.87 (.90)	−.17*	−.29***	−.23***	−	−.30***	−.40***	−.33***
2. Age (years)	30.05	7.87	−.82	−	.03	−.17*	−	.12	−.00	−.00
3. Control	3.30	0.71	−.30***	−.00	.75 (.85)	.09	−	.33***	.31***	.24***
4. Reward	2.83	0.99	−.39***	−.01	.10	.74 (.83)	−	.13	.25***	.17*
Level 2										
5. Workload	3.66	0.63	−.46***	.01	.11	.23**	− (.60)	−	−	−
6. Community	3.89	0.50	−.41***	−.15*	.53***	.35***	.26***	.97 (.98)	.47***	.46***
7. Fairness	3.70	0.39	−.36***	−.03	.39***	.26***	.39***	.63***	.74 (.77)	.56***
8. Values	3.81	0.52	−.30***	−.08	.53***	.24***	.25***	.74***	.76***	.78 (.97)

Notes. Correlations above the diagonal are on the individual level (level 1) and correlations below the diagonal are on the child care center level (level 2). Cronbach's alpha estimates are presented along the diagonal, estimates on the individual level are left, estimates on the child care center level are right. At the level 1, $n = 220$; at the child care center level, $n = 59$.

*$p < .05$. **$p < .01$, ***$p < .001$, − not applicable

Second, the analyses examining data aggregation yielded that the variables *community*, *fairness*, and *values* met the thresholds for aggregation. However, the *ICC[2]* for *control* and *reward* and the rwg_j for *reward* were below the recommended threshold of .70. Table 8 presents the aggregation test results for the worklife area variables. Consequently, we included control and reward as individual level variables and community, fairness, and values as organizational level variables. Workload is an organizational level variable because the child care center directors assessed the workload in the child care center.

Table 8. Aggregation test results for the AWL variables

	Between-group variance		Within-group agreement
	ICC[1]	ICC[2]	r_{wgj}
Control	.19(1.87)*†	.47	.79†
Reward	.28(2.51)*†	.60	.67
Community	.41(3.55)*†	.72†	.84†
Fairness	.39(3.37)*†	.70†	.86†
Values	.43(3.86)*†	.74†	.86†

Notes. †Thresholds for aggregation are met. * $p < 0.05$.
Figures in parentheses are *F*-values, *F*(58, 161).

Third, the ANOVA analysis (null model) assessing the clustering of burnout symptoms within child care centers showed that levels of reported burnout symptoms were not independent in child care centers, *ICC[1]*= .19, F (58, 161) = 1.87, $p < 0.01$. Child care teachers working in a child care center were also easily distinguishable by their average level of burnout symptoms, *ICC[2]* = .46. In total, 19% of the levels of reported burnout symptoms were explained by child care center properties, leaving 81% of the variance unexplained. This remaining variance lies at lower levels involving differences between the perceptions of child care teachers, random errors,

and organizational characteristics at a lower level. Including the individual level characteristics into the model (model 1) revealed that age, control, and reward together accounted for 14 % (i.e., 1-[0.42/.49] = .14) of the within-child care center variation in burnout levels among child care teachers. Including the organizational level characteristics workload, community, fairness, and values into the model (model 2) showed that these variables explained 54% of the between-child care center variance in burnout levels across child care centers beyond the effect of the individual level characteristics. Table 9 lists the parameters for all fitted models.

The linear mixed-effects model regressing both the individual and organizational level characteristics on burnout levels provided the basis for interpretation of the relationships between the independent variables and burnout levels. The model showed that individual as well as organizational level characteristics were significantly associated with individual burnout levels among child care teachers. More specifically, lower age, more control, and more reward were significantly related to lower burnout levels on the individual level. However, only one organizational level characteristic, workload, was significantly associated with burnout levels among child care teachers. Child care teachers who faced a lower workload in a child care center experienced burnout symptoms less often. The random effects for control and workload were non-significant, indicating that the associations between control and workload and burnout levels did not vary among child care teachers across child care centers. The individual level variables explained 11% (overall pseudo-R^2) of the variance in experienced burnout symptoms and the individual and organizational level variables together accounted for 20% (overall pseudo-R^2) of variance in reported burnout symptoms.

Table 9: Multilevel regression estimates for the effects of individual and organizational level variables on burnout symptoms

	Null model			Model 1			Model 2		
	Est.	*SE*	*t*	Est.	*SE*	*t*	Est.	*SE*	*t*
Level 1									
Intercept	3.06	0.07	43.94***	3.05	0.06	48.03***	3.03	0.06	54.68***
Age				−0.02	0.01	−2.59*	−0.02	0.01	−2.62**
Control				−0.23	0.08	−2.79**	−0.17	0.08	−2.03*
Reward				−0.14	0.05	−2.80**	−0.12	0.05	−2.46*
Level 2									
Workload							−0.28	0.10	−2.87**
Community							−0.21	0.15	−1.40
Fairness							0.07	0.23	0.31
Values							−0.07	0.20	−0.34
Random effects (variances)				Est.	*SE*		Est.	*SE*	
Level 1 (within child care centers)									
Control				0.06	0.24		0.05	0.23	
Level 2 (between child care centers)									
Workload							0.00	0.00	
σ^2_{within}		0.12			0.09			0.04	
σ^2_{u0}		0.49			0.42			0.43	
df		161			158			54	
Pseudo R^2					0.11			0.20	

Note: Est. = estimate, σ = variance. *$p < .05$. **$p < .01$, ***$p < .001$. Workload is reverse coded, e.g., high scores mean low workload.

Discussion

The study intended to further the understanding of burnout symptoms among child care teachers. We found that (1) burnout symptoms among child care teachers clustered strongly within child care centers and (2) control and reward on an individual level, and workload on a child care center level were significantly associated with burnout symptoms among child care teachers.

We want to begin by discussing data aggregation. The indices assessing data aggregation indicated modeling control and reward at the individual level and community, fairness, and values at the child care center level. This classification appears plausible because control is dependent on the specific function of the child care teacher, e.g., leadership roles, specific tasks and responsibilities, and reward in terms of pay satisfaction is dependent on the total household income as well as the family situation of the child care teacher. On the other hand, community, fairness, and values may primarily reflect the shared environment (e.g., support by team members, director, work schedule, pedagogical framework) in the child care center.

In our sample, 19% of the burnout symptoms levels among child care teachers were attributable to the properties of the child care center. This variation in burnout symptoms between child care centers is higher than the variation across work-units of 4% to 9% usually found in applied organizational research (Bliese & Jex, 2002; Consiglio, Borgogni, Alessandri, & Schaufeli, 2013; González-Morales, Peiró, Rodríguez, & Bliese, 2012; Park & Lake, 2005). Burnout symptoms may cluster so strongly within child care centers because child care teachers work closely together, are directly affected and strained by burned-out co-workers, and because child care centers are small work units. This high variation in burnout symptoms between child care centers underpins that the work-unit, e.g., the child care center, indeed matters for the levels of burnout symptoms experienced among child care teachers. This is in line with previous

findings about child care teachers stating that they experience similar levels of burnout symptoms in a given center, e.g., Goelman and Guo, 1998 and Viernickel et al., 2014.

We identified three worklife areas significantly related to burnout symptoms among child care teachers: control and reward on an individual level and workload on the child care center level. While workload and control have resonated with the emotional exhaustion dimension of burnout throughout research across many occupational groups (Portoghese, Galletta, Coppola, Finco, & Campagna., 2014; Seidler et al., 2014), the importance of rewards may be a characteristic more specific to the child care workforce. The strong relationship between individual perceived workload and individual burnout levels has been steadily established based on the assumption that stressors mainly have an effect on the individual level (Bliese & Jex, 2002; Bowling, Alarcon, Bragg, & Hartman, 2015). However, our results emphasize the importance of workload on the work-unit, e.g., the child care center level, for burnout levels among child care teachers. This result is consistent with prior results that staffing levels, a proxy for workload, on a ward level and work hours were associated with individual burnout levels among nurses (Leineweber et al., 2014; Park & Lake, 2005; Van Bogaert et al., 2013). In institutionalized child care, the workload is mainly dependent on adequate staffing (child-to-staff ratio) because every child multiplies the work in terms of individual interactions, the number of documentations, and conversations with parents etc. When staffing levels are inadequate, child care teachers may have to spend more time with the children and less time on administrative tasks, such as preparation, planning, and team meetings. These tasks would structure and facilitate the work in the long run and would strengthen the team collaboration. Moreover, more time with children has been shown to be positively associated with higher emotional exhaustion levels among child care teachers (Løvgren, 2016; Maslach & Pines, 1977). Therefore, one reason

for the high association between workload on the child care center level and burnout levels among child care teachers may be the long hours child care teachers have to spend with the children when staffing levels are inadequate.

On the other hand, more perceived control and rewards were associated with fewer burnout symptoms. This finding is in line with prior research (Goelman & Guo, 1998; Løvgren, 2016) highlighting the importance of high control and the associated constructs autonomy (high), role conflict (low), and role ambiguity (low) for low burnout levels among child care teachers. The importance of these job characteristics may be due to the many simultaneous tasks and roles a child care teacher has to perform at the same time, e.g., documenting while caring for and educating children, meeting the needs of children, parents, and administration alike. Throughout child care workforce research, reward in terms of wages and benefits has surfaced as a job characteristic permeating various outcomes among child care teachers, e.g., job satisfaction, turnover, and burnout (Goelman & Guo, 1998; Royer & Moreau, 2015; Viernickel et al., 2014; Whitebook et al., 1989). Wages and benefits are low in child care, and child care teachers are dissatisfied with their pay, which they expressed loudly in strikes and demonstrations in the United States and Germany in 2015 (Fenech et al., 2009; Kusma, Mache, Quarcoo, Nienhaus, & Groneberg, 2011; Schreyer et al., 2014; Whitebook et al., 2014). Hence, the importance of rewards in terms of pay satisfaction for individual burnout symptoms is in accordance with previous studies (Fenech et al., 2009; Hossain et al., 2012; Kusma et al., 2011; Viernickel et al., 2014; Whitebook, 1999). One explanation is that child care teachers have to work longer working hours due to the low pay to ensure that their needs are met, which drains resources and energy. Another explanation is that insufficient financial resources increase stress levels in general and hence foster the development of burnout symptoms. A third explanation is that

financial reward is a part of appreciation. Combined with the general low appreciation of child care, low pay and low pay satisfaction may contribute to feelings of being underappreciated. Research has well documented that an imbalance of workload and rewards is associated with higher burnout levels (Van Vegchel, de Jonge, Bosma, & Schaufeli, 2005; Viernickel et al., 2014).

Although earlier studies found that social support (community) (Goelman & Guo, 1998), fair treatment (fairness) (Khan, 2009), and the pedagogical approach (values) (Viernickel et al., 2014) on an individual level were related to burnout levels among child care teachers, the relationships between community, fairness, and values on a child care center level were not significantly related to burnout levels in our study. This finding may be owed to the close association between workload and burnout levels that covers the associations of community, fairness, and values on the child care center level with burnout levels. Another explanation is that community, fairness, and values only matter on an individual level.

Strengths and limitations of the study and future research directions

First, the study adds to the existing literature by showing that that child care teachers' burnout levels cluster within child care centers and organizational level characteristics are related to burnout levels among child care teachers. Second, the study relied on an organizational level assessment of workload (given by directors) and not an individual level assessment, the perceived workload, which most previous studies have examined. The director's assessment may reflect the actual workload more "objectively" than individual assessments would. Nonetheless, future research should incorporate also objective measures of workload, e.g., observational measures of actual child-to-staff ratios, because of the high association between workload and

burnout levels. Third, the study extends the existing research by applying the AWL to the child care workforce.

On the other hand, the first key limitation of the study is the cross-sectional design that does not allow causal inferences to be made. Future research should include longitudinal designs to assess the effects of varying control, reward, and workload on burnout levels over time. Second, we employed the COPSOQ instead of the Maslach Burnout Inventory (MBI), which is the instrument most often employed in research, to assess burnout symptoms. While the use of different burnout measurement instruments advances the state of burnout research and prevents the burnout syndrome from becoming equal to the syndrome measured by the MBI (Kristensen et al., 2005), it may limit the comparability of the results to previous findings. Third, we used scales specific to child care teachers to assess the six worklife areas instead of the Areas of Worklife Scale (Leiter & Maslach, 2004). Scales specific to the child care workforce strengthen our understanding of processes in child care work, but the employment of such specific scales may further limit the comparability of the results to previous findings and make it difficult to generalize the results to other professional groups. Fourth, the study has included variables on the child care center level, but it appears plausible that characteristics on other levels, e.g., the work group or the governing agency level, are also related to burnout levels among child care teachers. Variables on these levels may capture additional variation in job characteristics which the child care center level does not reflect. Therefore, we want to encourage researchers to pursue examining relationships between different higher level characteristics and burnout levels among child care teachers in future research.

Practical implications

The results suggest that interventions tackling burnout should target the organizational level, as well as the individual level. The study identified three target points: on the individual level, *control* and *reward*, and on the organizational level, *workload*. While work with young children requires certain routines and predictability, which limits control over work, pedagogical approaches concede different extents of work autonomy. A pedagogical approach that enables teachers to plan the day and activities autonomously and pursue individual projects with children (e.g., the Reggio Emilia approach; Shelley & Flessner, 2013) could strengthen the experience of control among child care teachers. Previous research (e.g., Royer & Moreau, 2015; Whitebook et al., 2014; Schreyer et al., 2014) has repeatedly identified inadequate financial reward in terms of low pay as a major stressor in child care work, and the present findings lend support to the notion that pay satisfaction also matters. Consequently, pay raises appear inevitably to increase pay satisfaction and may reduce the stress levels of child care teachers. Finally, intervention measures need to address the child care teachers' workload. Staffing levels need to be increased to reduce the workload. Possible measures could involve lowering the child-to-staff ratios by employing additional child care teachers as well as floaters, and filling vacant positions. Maintaining a lower child-to-staff ratio would also allow the child care teachers to perform their administrative, planning, and preparation tasks and contribute to fewer hours spent with the children. Measures taken to increase control and reward and to reduce the workload may help keep child care teachers healthy, which, in turn would enable them to offer high-quality child care. But we should view these suggestions with due care, because we are not able to determine causal relationships owing to the cross-sectional study design. Additional well-designed studies

are needed to investigate the direction of the relationships and to examine how and where to implement the recommendations.

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7. Why Do Child Care Teachers Leave? Why Do They Stay?

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Abstract

Turnover of child care staff is associated with lower care quality and compromised children's development. Child care teacher turnover rates are high. This article therefore aims to explore the correlates and reasons for turnover intention, turnover, and retention among child care teachers in two steps: The first study tested the Job Demands-Resources (JD-R) model with lead teachers (N = 491) and assistant teachers (N = 569) using structural equation modeling. The second study assessed actual turnover and retention and explored the reasons for teachers staying and leaving in a smaller subsample (N = 273) 3 years later using correlational and content analyses. The analyses showed that the theoretical model fit the data well, indicating that the relationships hypothesized by the J-DR model fully hold for lead teachers and partially hold for assistant teachers. Overall, the motivational pathway was stronger than the energetic pathway. Furthermore, turnover intention at t_1 predicted turnover at t_2 (r =.30; $p < 0.05$). The content analysis revealed that there are both common and distinct reasons why child care teachers stay or leave.

A secure relationship between child and child care teacher has a crucial impact on the child's well-being and development in institutionalized child care (Haug-Schnabel, Bensel, von Stetten, Weber, & Schnabel, 2008; Naumann, 2015). The trusting relationship is the secure base that a child requires to learn and explore (Bridges et al., 2011; Hale-Jinks et al., 2006). However, it takes time and continuity to establish and maintain a secure trusting relationship (Raikes, 1993). Turnover of child care teachers threatens children's development, because children lose the trusting relationship with a particular caregiver (Hale-Jinks et al., 2006; Naumann, 2015). Studies have shown that high turnover rates of child care teachers are associated with lower care quality and compromised cognitive, language, and social-emotional development of children (Bridges et al., 2011; Helburn, 1995; Huntsman, 2008; Love et al., 2003; Whitebook, Howes, & Phillips, 1989). Therefore, the high child care teacher turnover rates—estimates range from 25 to 40% annually (Center for the Childcare Workforce, 2004; Huntsman, 2008; Porter, 2012; Sumsion, 2007)—across regions are worrying. High turnover also contributes to the shortage of qualified child care staff, which adds another threat to care quality (Huntsman, 2008). Yet, before actual turnover occurs, turnover intention on the part of staff has its own negative impact on care quality, because workers who intend to leave invest less in their work (Balfour & Neff, 1993).

Turnover intention, turnover, and retention among child care teachers

Turnover intention can be described as "conscious and deliberate willfulness to leave the organization" (Tett & Meyer, 1993, p. 262). Turnover intention is a complex process involving withdrawal behaviors and cognitions, search behaviors, and the wish to quit (Bothma & Roodt, 2013). The single best predictor of actual turnover is turnover intention (Bothma & Roodt, 2013; Johnsrud & Rosser, 2002). The relationship between turnover intention and actual turnover is

usually moderately positive (Bothma & Roodt, 2013; Manlove & Guzell, 1997; Stremmel, 1991). For example, child care teachers who report a wish to leave the profession were almost five times more likely to leave the profession within 12 months (Manlove & Guzell, 1997).

Whitebook and Sakai (2003) distinguish three types of turnover in child care work: *job turnover*, *position turnover*, and *occupational turnover*. We add *natural turnover*, a fourth type, to this classification due to the nature of child care teachers' formal education in Switzerland.[17] *Job turnover* refers to leaving for a job at another child care center. Job turnover may be voluntary, e.g., due to starting a family, relocating, or a new job, or involuntary, e.g., due to layoff or center closure. *Position turnover* refers to moving to a different position within the child care center, e.g., teaching in another classroom. *Occupational turnover* refers to leaving the profession of child care teacher along with leaving the child care center. And last, *natural turnover* refers to assistant teachers leaving the child care center because they have completed their apprenticeship or internship there: At this point, assistant teachers need to change their position, i.e., the interns become trainees, and the trainees become lead teachers. In this study, we focus on *voluntary job* and *occupational turnover*, because these two turnover types contribute mainly to the loss of qualified teaching staff.

Previous studies have identified several common reasons for and correlates of turnover intention and turnover among child care teachers and suggested that a combination of inadequate

[17] In Switzerland, the early care and education system usually includes 1-year (internship) and 3-year (apprenticeship) temporary employment arrangements. After assistant teachers have completed their internship or apprenticeship position, they are required to find a new job corresponding to their new qualifications.

working conditions and dissatisfaction most likely causes child care teachers to leave (Gable et al., 2007; Hale-Jinks et al., 2006; Wells, 2014). The most prominent correlates or predictors of turnover intention and turnover among child care teachers are low pay and low pay satisfaction (Gable et al., 2007; Hale-Jinks et al., 2006; Stremmel, 1991; Whitebook et al., 1989; Whitebook & Sakai, 2003). Moreover, research has identified job stress (Deery-Schmitt & Todd, 1995; Hale-Jinks et al., 2006), a lack of opportunities for advancement and further education (Hale-Jinks et al., 2006; Stremmel, 1991), perceived availability of job alternatives (Stremmel, 1991), lacking administrative support (Hale-Jinks et al., 2006; Wells, 2014), low education (Wells, 2014), and a poor work environment (Wells, 2014) as common reasons for turnover among child care teachers.

However, previous research has rarely addressed retention, i.e., why child care teachers stay at their job. But this issue appears to be equally relevant, because staying is also a deliberate decision, and the reasons behind that decision may be not only the opposite of the reasons for turnover. The few studies available on retention found that child care staff were more likely to stay, if they were better educated, had longer job tenure, were happy, had a good relationship with their supervisor, and liked the work environment (Wells, 2014; Whitebook & Sakai, 2004). Additionally, intervention studies have shown that financial incentives have small effects on retention among child care teachers (Bridges et al., 2011; Gable et al., 2007).

To sum up, current knowledge of turnover intention, turnover, and particularly retention among child care teachers is very scarce and scattered. Moreover, most studies on these phenomena focused on the U.S. workforce or on single issues, such as predictors of turnover intention (e.g., Stremmel, 1991), turnover (e.g., Whitebook & Sakai, 2003), or financial retention incentives (e.g., Bridges et al., 2011; Gable et al., 2007). Our aim is to expand the current body

of research by reporting on two studies that we conducted for integrative investigation of turnover intention, turnover, and retention, drawing on a large sample of child care teachers in a Swiss municipality. The first study explores turnover intention among lead and assistant teachers based on the Job Demands-Resources (JD-R) model (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014), one of the leading occupational stress models. The second study explores the relationship between turnover intention and turnover/retention and teachers' actual reasons for leaving and staying 3 years later in a smaller subsample, again distinguishing between lead teachers and assistant teachers.

The Job Demands-Resources (JD-R) model

To explain turnover intention among child car teachers, we draw on the JD-R model (Bakker & Demerouti, 2007; Demerouti et al., 2001), which since 2001 has become one of the most influential job stress models (Schaufeli & Taris, 2014). Whereas its forerunners, the Effort-Reward Imbalance model (Siegrist, 1996) and the Job Demand-Control model (Karasek, 1979) limit the job characteristics included, the JD-R model offers more flexibility by including any possible job resources and job demands (Taris et al., 2005). The core assumption of the JD-R model is that job characteristics can be grouped into job demands and job resources: *Job demands* are "those physical, social, organizational aspects of the job that require sustained physical or mental effort and therefore associated with certain physiological and psychological costs" (Demerouti et al., 2001, p. 501). Job demands may not be negative per se, but they become stressors if they exceed the resources and energy of employees and prevent recovery (Bakker & Demerouti, 2007). *Job resources* are "those physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce

job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development" (Demerouti et al., 2001, p. 501).

Based on this classification, the JD-R model assumes that two different psychological processes mediate the relationships between job resources and job demands and occupational outcomes (Schaufeli & Taris, 2014; Van den Broeck et al., 2008). The *energetic process* reflects the pathway between job demands, strain, (e.g., burnout), and organizational outcomes. Long-lasting high job demands drain employees' energy and thus lead to strain, which is in turn related to negative organizational outcomes (Schaufeli & Taris, 2014). The *motivational process*, however, reflects the pathway between job resources, motivation, and organizational outcomes. Job resources have motivational potential and lead, mediated by well-being, to positive organizational outcomes (Schaufeli & Taris, 2014). Additionally, job resources have a direct influence on burnout by mitigating the effect of the job demands (Schaufeli & Taris, 2014).

As job demands and resources are specific to every profession (Bakker & Demerouti, 2007), we included job demands and job resources specific to the child care workforce in our JD-R model. Research on child care teachers has shown that they face many job demands associated with staffing levels and thus time, e.g., a lack of time for tasks and breaks, long working hours, inadequate staffing levels, time pressure. Regarding resources, studies have revealed that co-worker relations/team ambiance (Jorde-Bloom, 1988; Kusma et al., 2012), quality of leadership (Khan, 2009; Kusma et al., 2012), and job control or its opposite, autonomy at work (Royer & Moreau, 2015; Rudow, 2004), are positively related to job satisfaction and psychological well-being. Moreover, role clarity has been associated with lower burnout and turnover levels among child care teachers (Bright & Calabro, 1999; Goelman & Guo, 1998; Manlove, 1994).

Further, in these studies we included burnout as the indicator for strain, because burnout

and turnover intention have been found to be closely associated (Alarcon, 2011; Ducharme, Knudsen, & Roman, 2016). We included job satisfaction as an indicator for well-being, as previous studies have found job satisfaction and turnover intention to be closely related (Podsakoff, LePine, & LePine, 2007; Stremmel, 1991). Job satisfaction represents the dimensions of satisfaction with the job, working conditions, and pay, because these aspects have been found to be closely associated with turnover intention among child care teachers (Hale-Jinks et al., 2006; Stremmel, 1991; Wells, 2014). Figure 7 shows the modified JD-R model tested in the first study.

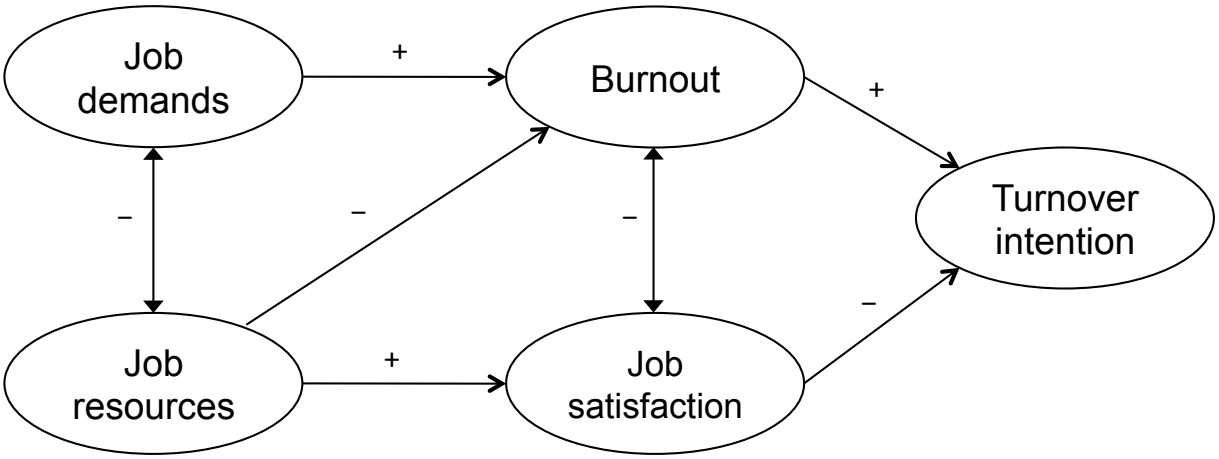

Figure 7: The conceptual model

Lead teachers and assistant teachers

In most countries, the child care workforce is divided into two groups of teachers with different qualifications and usually different tasks, duties, and responsibilities: lead teachers and assistant[18] teachers[19] (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010).

[18] The OECD (2010) and the European Commission/EACEA/Eurydice/Eurostat (2014) refer to these teachers also as 'auxiliary staff.' We use the more common term 'assistant teachers.'

Lead teachers have usually completed formal and professional education (e.g., college, vocational training) and have earned a diploma in early education and care (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010). Assistant teachers have no or only limited formal education and vocational training in the field (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010). In Switzerland, lead teachers in institutionalized child care have completed a three-year vocational apprenticeship in early education and care and hold a vocational degree. Assistant teachers either complete an internship (interns) or are in vocational training (trainees), which includes formal education as well as supervised work at a child care center (apprenticeship). Trainees have a 3-year contract with the child care center and are usually required to do an internship before the apprenticeship at the same child care center. In Switzerland, lead and assistant teachers face very different job alternatives: There is a shortage of positions for apprentices, but there is an oversupply of vacant job positions for lead teachers.

Aim

The aim of the two studies was to explore why child care teachers stay at their job and why they leave their job or the profession. We pursued this goal in two consecutive steps: First, we assessed the relationships between job resources, job demands, burnout, job satisfaction, and turnover intention for lead and assistant teachers, applying structural equation modeling. Second,

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[19] In this article, we use the terms 'child care teachers' and 'teaching staff' when we refer to both groups of teachers—lead teachers and assistant teachers. Otherwise, we use the specific terms 'lead teachers' or 'assistant teachers.'

we explored actual turnover and retention among teaching staff after a period of 3 years and identified the reasons for teachers either staying or leaving in a smaller subsample.

Hypotheses

For the first study, we based our hypotheses on the modified JD-R model (Schaufeli & Taris, 2014). See also Figure 7.

H_1: Among child care teachers, job resources are positively associated with job satisfaction and negatively associated with burnout. Job demands are positively associated with burnout.

H_2: Among child care teachers, job satisfaction is negatively associated with turnover intention. Burnout is positively associated with turnover intention.

H_3: Among child care teachers, job satisfaction mediates the pathway from job resources to turnover intention. Burnout mediates the pathway from job demands to turnover intention.

For the second study, we pursued an explorative approach led by four questions:

- How many child care teachers have stayed at their job, how many have left their job or the profession during the period of 3 years?
- Is the turnover intention of child care teachers reported in the first study associated with the turnover reported in the second study?
- What were the child care teachers' reasons for staying at their job, and what were their reasons for leaving their job or the profession?
- Do the reasons for staying at their job, leaving their job, and leaving the profession differ?

Method

Procedure

We conducted two questionnaire surveys, with a 3-year interval. The initial survey assessed all child care teachers and assistant teachers who worked at publicly co-financed child care centers in a Swiss municipality in 2013. We surveyed the participants again in 2016. For the first survey, we invited the child care teachers to participate by asking their child care center directors (by e-mail) to distribute the questionnaire using an online link or in the form of a hard copy. For the second survey, we e-mailed the link to the online questionnaire directly to the participants in the first survey who had provided their e-mail addresses on the questionnaire.

For both surveys, participants read an introduction to both surveys that described the study and emphasized the confidentiality and voluntariness of the survey responses. For the first survey, we sent the hard copy questionnaires out together with an envelope addressed to our research institute to ensure the confidentiality of the responses. For both surveys, we ensured confidentiality by isolating from the database all personally identifying information, i.e., the names of the child care centers, after data collection was completed. To be able to match the data from the first survey to the data of the respective individual from the second survey, we asked participants to generate the same unique code on both surveys. We were able to match the data of 95 participants in the second survey with the data of the respective individual in the first survey by this code. After merging the data, the code was deleted from the data file. Only primary researchers had access to the original data, and we destroyed all identifying records and notes in accordance with established research ethics protocols.

Study 1

Participants

The first sample included 491 lead teachers (50%; *N* = 978) and 569 assistant teachers (51%; *N* = 1108). The average age of lead teachers was 30 years (*SD* = 8.8) and of assistant teachers 20 years (*SD* = 3.9). Twenty percent of the lead teachers and only 3% of the assistant teachers had children. Ninety-five percent of both lead and 93% assistant teachers were women. Lead teachers had been working in child care for an average of 10.27 years (*SD* = 6.04) and at the child care center included in the study for 3.71 years (*SD* = 3.67). Assistant teachers had been working in child care for 2.60 years (*SD* = 1.53) and at the child care center included in the study for 1.83 years (*SD* = 1.22).

Measures

The first survey was part of larger project evaluating the working environment and working conditions among child care teachers in a Swiss municipality. The variables included in the first study were the following.

Demographics. Participants were asked to provide information on their age, professional educational background, family status, whether they had children, job title, tenure at their child care center and at their current place of employment.

Job resources. Four subscales of the questionnaire focused on job resources: role clarity, job control, leadership, and team climate:

***Role clarity*.** Six items drawn from a scale by Great Britain's Health and Safety Executive (Bond et al., 2006; Health and Safety Executive, 2017) assessed the extent to which child care staff could identify what their daily tasks, duties, and responsibilities were, e.g., "My duties and responsibilities are clear." Cronbach's alpha for this scale was .79/.79 (lead

teachers/assistant teachers), indicating a high degree of reliability.

Job control. Six items drawn from a scale by Great Britain's Health and Safety Executive (Bond et al., 2006; Health and Safety Executive, 2017) assessed the scope of decision making in tasks, procedures, and time management during work, e.g., "I have a choice in deciding how I do my work." This scale had good reliability, as represented by a Cronbach's alpha of .75/.78.

Leadership. Twenty items drawn from the AQUA questionnaire for child care teachers (Schreyer et al., 2012a) captured child care teachers' assessments of their directors' professional and managerial competence and transparency as well as teachers' personal relationship with their director, e.g., "My director and I agree on important educational questions." Cronbach's alpha was .97/.97 for this scale, indicating an excellent degree of reliability.

Team ambiance. Sixteen items from the Team Climate Inventory (Anderson & West, 1998) assessed how the teaching staff rated the team climate concerning task orientation, perceived safety in the work group, and support for innovation, e.g., "We have lively debates on the best way to do the work." This scale also had excellent reliability, with a Cronbach's alpha of .95/.95.

Taken together, the job resources scale had a Cronbach's alpha of .69/.69, suggesting acceptable reliability.

Job demands. The eight items of the Health and Safety Executive Job Demands scale (Bond et al., 2006; Health and Safety Executive, 2017) assessed the extent of quantitative job demands, e.g., "I am pressured to work long hours," and qualitative job demands, e.g., "Different groups at work demand things from me that are hard to reconcile." Cronbach's alpha of .88/.88 suggested good reliability.

Mediators.

Burnout. The four items of the Copenhagen Psychosocial Questionnaire II (Pejtersen et al., 2010) assessed how tired and physically and emotionally exhausted the participants had felt during the last four weeks, e.g., "How often have you been emotionally exhausted?" The response scale ranged from 1 (never) to 5 (always). Cronbach's alpha of .87/.86 suggested good reliability.

Job satisfaction. Five items of the AQUA questionnaire for child care teachers (Schreyer et al., 2012a) assessed how satisfied the participants were with their work and their pay, e.g., "How satisfied are you with your work in general?" The response scale ranged from 1 (I do not agree at all) to 5 (I completely agree). The scale showed acceptable reliability, with a Cronbach's alpha of .75/.76.

Outcome.

Turnover intention. Three items of the AQUA questionnaire for child care teachers (Schreyer et al., 2012a) assessed the extent to which the participants intended to leave their job and the profession, e.g., "I intend to quit my job at this child care center." The response scale ranged from 1 (I do not agree at all) to 5 (I completely agree). The scale showed good reliability, with a Cronbach's alpha of .88/.88.

Data analysis

For the quantitative analyses in the first study we used the statistical software package SPSS, version 22, for descriptive purposes and the lavaan and the sem packages for the open-source statistical software R (Fox et al., 2016; Rosseel, 2016) for testing measurement invariance, confirmatory factor analysis, and structural equation modeling. We explored the data using descriptive analyses and structural equation modeling to evaluate relationships between job

resources, job demands, burnout, job satisfaction, and job turnover intention in lead and assistant teachers. We used maximum likelihood estimation to fit the confirmatory factor analysis and the structural equation models and the full information maximum likelihood to replace missing values in line with Carter's (2006) recommendations for data missing at random. The structural equation models were on the individual level, although the data used had a nested structure, i.e., child care teachers at child care centers. Of the total 1,030 participants, 288 child care teachers did not provide the name of their child care center; we would therefore have had to exclude a substantial 28% of the participants and would have lost their information. To verify that our results held if the analyses took the nested structure of the data into account, we fitted two linear mixed-effects models with maximal random effects, regressing turnover intention on job demands, job resources, burnout, and job satisfaction (for results see Table 13 and 14 in the appendix). The results of those models supported the results of the structural equation models.

Results

Study 1

First, we explored the data using descriptive analyses and correlations. Table 10 shows the means, standard deviations, and intercorrelations for the latent variables for lead and assistant teachers. We used three measures to assess the model fit: the relative chi-square,[20] the chi-square fit index divided by the degrees of freedom—for which threshold recommendations range from < 5 (Wheaton, Muthén, Alwin, & Summer, 1977) to < 2 (Tabachnick & Fidell, 2007); the comparative fit index (CFI)—for which values higher than .93 indicate a good model fit (Hu &

[20] For large sample sizes, i.e., $N > 200$, Tabachnick and Fidell (2007) recommend using the relative chi-square value.

Bentler, 1999); and the root mean square error of approximation (RMSEA)—for which values ranging from < .05 to < .06 indicate a good model fit (Hu & Bentler, 1999).

Table 10: Means, standard deviations and intercorrelations among latent study variables

	Lead teachers		Assistant teachers						
Variables	*M*	*SD*	*M*	*SD*	1	2	3	4	5
Turnover intention	2.16	1.19	2.07	1.17		.43***	−.47***	.44***	−.54***
Job demands	2.43	0.79	2.34	0.8	.45***		−.43***	.52***	−.53***
Job resources	3.90	0.51	3.64	0.55	−.55***	−.57***		−.39***	.54***
Burnout	3.00	0.80	3.17	0.82	.35***	.52***	−.37***		−.48***
Job satisfaction	3.37	0.72	3.39	0.71	−.44***	−.48***	.54***	−.41***	

Notes. Correlations above the diagonal are for lead teachers and correlations below the diagonal are for assistant teachers.
Lead teachers, $n = 461$; Assistant teachers, $n = 569$.
*** $p < .001$

Structural equation modeling

First, we tested for measurement invariance between the two groups, lead teachers and assistant teachers. Measurement invariance is required to assess differences in the relationships between two groups statistically using multi-group structural equation modeling (Evermann, 2010). The invariance measurement analyses (results are shown in the appendix, Table 12) yielded that measurements were not invariant for the two groups. Therefore, we fitted the structural equation models separately for lead and assistant teachers. Consequently, we could not test and interpret differences between the two groups based on statistical grounds. First, we tested the measurement model of five different latent factors using confirmatory factor analysis. The one single factor-model fit the data poorly: χ^2/df = 1923/189 = 10.17, CFI = .61, RMSEA = .14 for lead teachers; χ^2/df = 2069/189 = 2.08, CFI = .65, RMSEA = .13 for assistant teachers. However, the competitive model comprising the five latent factors, job demands, job resources, burnout, job satisfaction, and turnover intention fit the data well: χ^2/df = 528/179 = 2.95, CFI = .92, RMSEA = .07 for lead teachers; χ^2/df = 404/179 = 2.26, CFI = .96, RMSEA = .05. The results of the confirmatory factor analysis indicated that all items loaded on their factors with loadings greater than .40. The results indicated that the measurement model was adequate. Second, we tested the hypothesized model (see Figure 7) using structural equation modeling. After we allowed some residual errors within constructs to correlate to improve model fit, the hypothesized model fit the data well: χ^2/df = 497/239 = 2.08, CFI = .95, RMSEA = .05 for lead teachers, and χ^2/df = 456/239 = 1.91, CFI = .97, RMSEA = 0.04 for assistant teachers.

The path analyses revealed that job resources were positively associated with job satisfaction and job demands were positively associated with burnout for both lead and assistant teachers. However, job resources were negatively associated with burnout only for lead teachers.

These findings fully supported hypothesis 1 for lead teachers but only partially supported hypothesis 1 for assistant teachers. Furthermore, job satisfaction was positively and burnout was negatively associated with turnover intention for lead teachers. This finding fully supported hypothesis 2. Only job satisfaction but not burnout was associated with turnover intention for assistant teachers. These results only partially supported hypothesis 2.

Job satisfaction mediated the pathway from job resources to turnover intention for lead and assistant teachers, but burnout mediated the pathway from job demands to turnover intention only for lead teachers. The results fully supported hypothesis 3 for lead teachers but only partially supported hypothesis 3 for assistant teachers. Figure 8 shows the results of the structural equation modeling.

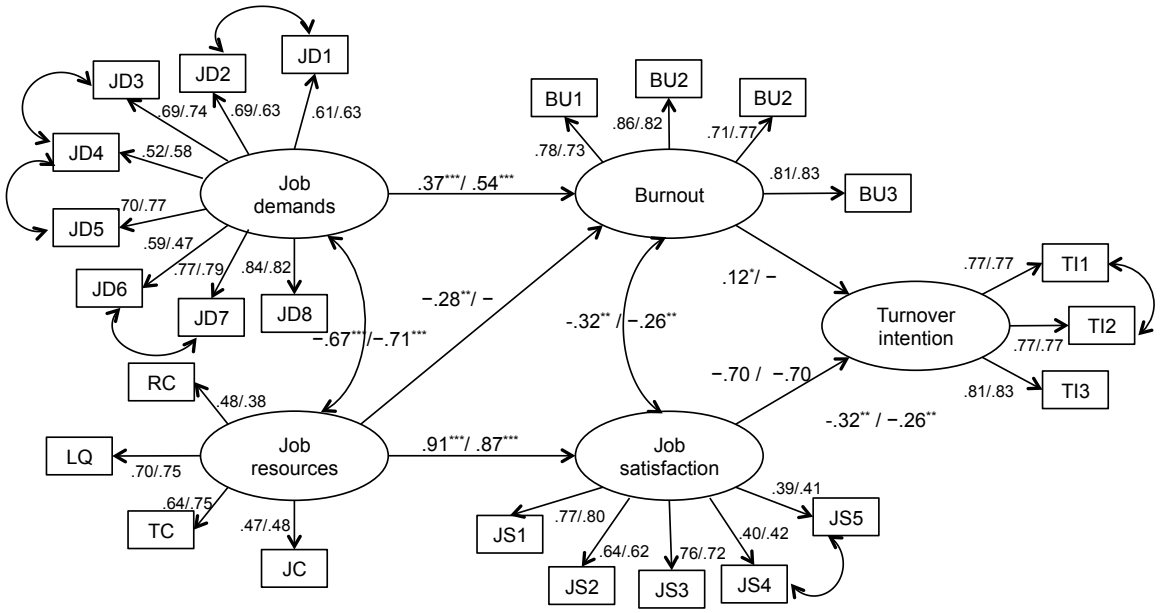

Figure 8: Parameter estimates of the accepted model (standardized coefficients).

Notes. Left: Coefficients of lead teachers. Right: coefficients of assistant teachers.

$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$; − not significant; RC = role clarity, LQ = leadership quality, TC = team climate, JC = Job control, JD = job demand, BU = burnout, JS = job satisfaction, TI = turnover intention

Study 2

Participants

The second sample included 273 individuals. Participants' average age was 29 (*SD* = 7.8) old. Ninety-six percent were women. Twenty-five percent had children. Fifty-three percent were working as child care teachers; of these, only seven participants were assistant teachers, and the remaining were lead teachers. Twelve percent were working as directors at a child care center/kindergarten, 14% were studying at university, 6% were full-time, 3% were unemployed, and 12% were working in a field other than early education and care.

Measures

We developed the second questionnaire to assess how many child care teachers stayed or left (their job, the profession) in the past 3 years, as well as to explore their reasons for either staying or leaving.

Demographics. Participants were asked to provide information on their age, professional educational background, and family status.

Staying or leaving. We asked the participants to indicate whether they had stayed at their job and child care center or whether they had left the profession since the initial survey in 2013. We also requested information on their current occupation (e.g., stay-at-home husband/stay-at-home wife, student). Additionally, open-ended questions captured the reasons why the participants had either stayed or left, e.g., "Why have you stayed at your job? Please list at least three reasons."

Data analysis

The second study applied a mixed methods approach combining quantitative and qualitative analyses. First, we tested the correlation between turnover intention at t_1 and turnover/retention at t_2 by calculating a point-biserial correlation coefficient. Second, we

assessed retention and turnover among teaching staff using descriptive and correlational analyses. Third, we explored the reasons why teachers stay at their job or leave using content analysis following Mayring (2010, 2015); two researchers individually derived categories from the responses to the open questions inductively. In line with Mayring (2015), the researchers then compared and revised the categories after 50% of the data had been categorized. If categories and assignments to categories differed, the researchers discussed them until agreement was reached. Finally, we also counted assignments to each category to assess the relative importance of each reason for staying or leaving.

Results

Staying or leaving. Of a total of 273 participants, 34% (N = 93) were still working at their teaching job at the same child care center as 3 years earlier. Twelve percent (N = 33) had become a child care center director, 24 of them at the child care center that they had been teaching at during the first survey and 9 at another child care center. Twenty-four percent (N = 66) had left their job, 15% (N = 59) had left the profession, and 14% (N = 37) had left their job because they had completed the internship or apprenticeship. Only 1% (N = 3) had left involuntarily because they had been laid off or the center had closed; they were excluded from further analyses.

Correlational analysis yielded that turnover intention reported in the first survey predicted turnover reported in the second survey (excluding natural turnover); r_{pb} = .30 (N = 72; $p > 0.05$). Child care teachers had indeed left their job more often if they had reported a higher intention to leave 3 years earlier.

Reasons for staying or leaving. We explored the reasons why teachers stay, leave their job, and leave the profession[21] using content analysis (Mayring, 2010; 2015). Derived from the data material, we grouped the reasons into six categories: *team and work climate*, *working conditions and wages, advancement vs. lack of advancement, professionalism, work, and personal reasons*. We aimed to show the range of reasons as well as their relative importance. Teachers' actual words are shown here in quotation marks and were translated from German into English. In total, 72 stayers, 59 child care teachers who left their job, and 38 participants who left the profession cited their reasons for staying or leaving. Table 11 provides an overview of the categories and the number of teachers' statements assigned to each category.

Team and work climate. Two thirds (N = 48) of the child care teachers who stayed at their job stated that the "great," "awesome," "good," "appreciating," and "nice" *team* motivated them to stay. A few teachers named "stability" and "competence" of the team as a reason to stay. Only a few participants (N = 14) stated that the team was the reason for leaving their job or the profession due to conflicts and not feeling comfortable or accepted in the team; in this case, leavers often stated that the team had *changed*. Stayers (N = 11) and leavers (N = 7) named a "good" and "pleasant" or "bad" and "unbearable" *work climate*, a construct that is closely associated with co-worker relations, as a further reason for staying or leaving.

[21] We usually distinguish between the participants who left their job and the participants who left the profession; where we speak of 'leaving' or 'leavers,' we refer to both groups.

Table 11: Number of assignments to categories for retention, job turnover, and occupational turnover

Category	**Retention** (*N*=72)	**Job turnover** (*N*=66)	**Occupational turnover** (*N*=59)
Team & work climate			
Team	48	9	5
Work climate	11	6	1
Working conditions & wages			
Working conditions	17	5	6
Wages	12	5	10
Advancement vs. lack of advancement			
Advancement	23	–	–
Lack of advancement	–	37	30
Professionalism			
Pedagogical approach	16	5	2
Leadership/Management	33	58	32
Infrastructure	12	–	–
Work			
Joy/satisfaction/positive	35	–	–
Stress/strain/negative	–	7	32
Personal reasons			
Motherhood	5	8	14
Relocating/Commute/Traveling/Other	11	16	3

Working conditions and wages. The stayers named both "good working conditions" *(N* = 17*)* and "good wages" and "high wages" *(N* = 12*)* as reasons for staying. Working conditions included number of working hours, length of vacation, part-time work, etc. However, a few stayers indicated that "working conditions are not better at other child care centers" and "the wages are okay." A few also stated that they depended on their wages. On the other hand, "bad working conditions" and "low wages"/"dissatisfied with pay" were relatively infrequent reasons for leaving their job (*N* = 5; *N* = 5) and more often reasons for leaving the profession (*N* = 6; *N* = 10). Two other aspects of wages were crucial for leaving: "no compensation for additional tasks/further education" and "pay prospects."

Advancement vs. lack of advancement. Many stayers named *advancement opportunities* as a reason for staying: further education opportunities (*N* = 2), opportunity for advancement by taking over more tasks, responsibility, becoming a group leader (*N* = 15), and job offerings (*N* = 6). On the other hand, a lack of opportunities for advancement was often a reason for leaving the job or the profession. Leavers emphasized their desire for new challenges (*N* = 13 job turnover; *N* = 19 occupational turnover), including working with younger or older children and in other fields. A few leavers (*N* = 5) left for job opportunities at other child care centers, e.g., to work with their former director. Only a few leavers named a lack of opportunities for further education (*N* = 6) and advancement at their centers (*N* = 11), such as becoming a group leader, as reasons for leaving. Moreover, the child care teachers often left the profession to go back to school (*N* = 9) or changed jobs (*N* = 4) to prepare for other jobs such as social work, elementary school teaching, and nursing.

Professionalism. Participants named several aspects of the child care center associated with *professionalism* as reasons for either staying or leaving. A fifth of the stayers (*N* = 16)

stated that they stayed because they identified with or approved of the *pedagogical approach*. However, only a few leavers (N = 7) stated that disagreement with or disapproval of the educational approach had caused them to leave. Again, leavers named a *change* in the educational approach as a reason for leaving.

The most frequent reason for staying or leaving associated with professionalism were aspects of the *leadership* and *management.*[22] Thirteen child care teachers cited the "competence," "fairness," "professionalism," "transparency,", "support", and "appreciation" of the director as reason for staying at their job. Additionally, 20 teachers named aspects centered around a professionally led child care center, such as "good personnel management," "a professional child care center/agency," "professional work procedure," "well organized center," and "great development of the center" as reasons for staying. On the other hand, many child care teachers left their job (N = 58) or the profession (N = 33) due to a lack of professionalism on the part of the center's leadership or management. Leavers referred to "conflicts/discrepancies with the leadership/management," "unprofessional/incompetent director/management," and "director does not listen to employees" (N = 20 job turnover; N = 11 occupational turnover). Moreover, leavers listed many irregularities, such as "unstructured schedule for the children," "pressure on my person," "not complying with legal guidelines," "I had to lie to parents," "bad/no supervision for assistant teachers," "too much responsibility for assistant teachers," "working overtime," "inadequate staffing," "more children than legally allowed," "I had to pay for toys," and "forged

[22] Leadership refers to the director of the child care center, and management refers to the governing agency's management. Since the participants often did not distinguish between these superiors, we report them together.

attendance list" (*N* = 38 job turnover, *N* = 21 occupational turnover). Again, leavers often indicated that a *change* in the leadership had caused them to leave.

Last, stayers (*N* = 12) cited *good infrastructure* associated with a professional working environment, including "a nice/big house," "a garden," "good food," and "the location" as reasons for staying.

Work. Stayers named several aspects of the *work* per se (*N* = 11*)* as reasons for staying at their job: "autonomy," "having an input in the work," and "exciting/diverse job." Stayers also cited "being happy with the job," "being accustomed to the children, the environment, and the parents," and "wishing to accompany the children over time" (*N* = 20*)*. Additionally, some stated that "affectionate care for the children" and the fact that "the focus lies on the children" motivated them to stay (*N* = 4*)*. On the other hand, job leavers (*N* = 7*)* and profession leavers (*N* = 18*)* cited *stress/strain,* including "high psychological and physical demands," "too much responsibility," "overload," "too little preparation and planning time," "too much administrative work," and "not being challenged while having a lot of responsibility,", "the children suffer so much", as reasons for leaving. Additionally, leavers (*N* = 9) stated that they had lost their motivation/interest, with "monotonous work," and "not being challenged" as reasons for leaving the profession. Finally, a handful of participants who had left the profession (*N* = 5) also criticized the child care center sector as a whole: the increasing for-profit orientation and the alignment of the centers with the needs of parents and not the needs of children. One stayer wrote that "things are about same at every child care center or even worse."

Personal reasons. Only five child care teachers reported that aspects related to *motherhood* caused them to stay, mentioning, namely, "a child care slot for their child" and "reduced working hours." But motherhood was one of the most frequently named reasons (*N* =

14) for leaving the profession and, to a lesser extent, for leaving the job ($N = 8$). Some leavers stated that they wanted to stay at home full-time and did not like combining motherhood and teaching in early education and care. Others indicated that they had wished to pursue working part-time but no adequate part-time job had been available. Additional personal reasons for leaving or staying were "the commute" *(*$N = 10$ job turnover*,* $N = 1$ occupational turnover, and $N = 7$ retention*)*, "relocating" *(*$N = 3$ job turnover), "traveling" *(*$N = 3$ job turnover*)*, and "would feel guilty to leave" ($N = 1$ retention).

Discussion

This article contributes to the existing research by testing a theoretical model of turnover intention among child care teachers using structural equation modeling, which allows the testing of a set of relationships simultaneously. Additionally, the second study linked turnover intention to actual turnover 3 years later and explored teachers' reasons for staying or leaving using qualitative analysis. Regarding relationships between job resources, job demands, job satisfaction, burnout, and turnover intention among child care teachers, the results support the hypothesized relationships among lead teachers but only partially support these relationships among assistant teachers. More specifically, among assistant teachers, job resources are not associated with burnout, and burnout is not associated with turnover intention.

Moreover, the analyses reveal that only one third of the participants in the second study stayed at their job, whereas 15% left the profession. The qualitative analysis shows that there are both common and distinct reasons why teachers stay, leave their job, and leave the profession. The content analysis reveals a wide range of different reasons for staying or leaving associated with the team, working conditions and wages, advancement opportunities, professionalism, the work, and the individual.

We found a moderately positive relationship between the intention to leave and actual turnover 3 years later, which indicates that turnover intention is indeed a reliable proxy for turnover. This finding is in line with previous research showing that turnover intention and actual turnover are moderately associated (Bothma & Roodt, 2013; Manlove & Guzell, 1997; Tett & Meyer, 1993). The fact that the relationship in our sample is weaker than average relationships in other occupational groups (Bothma & Roodt, 2013; Tett & Meyer, 1993) and among child care teachers (Manlove & Guzell, 1997) may be due to the long period of 3 years between measurements. The moderate size of the relationship further implies that additional factors influence the decision to leave.

The analyses of study 1 show that the motivational pathway to turnover intention is stronger than the energetic pathway for lead teachers and is not even significant for assistant teachers. This finding is somewhat inconsistent with a large body of research showing close relationships between job demands, burnout, and turnover intention (Alarcon, 2011; Bothma & Roodt, 2013; Kim & Lee, 2009; Schaufeli & Bakker, 2004). A study by Hoonakker, Carayon, and Korunka (2013) may be instructive to explain this discrepancy, as it found that the motivational pathway to turnover intention was much stronger than the energetic pathway for women than for men (for whom the pathways were similarly strong) in a sample of information technology workers. With respect to the 95% women in our sample, we argue that the findings of the study may reflect a characteristic of women's career choices.

In a similar vein, another explanation may lie in the nature of child care work as a job with few extrinsic rewards (low pay, poor working conditions, low appreciation) but many intrinsic rewards (meaningful work, the children), making the motivational pathway more important. This assumption is echoed by the results of the qualitative analysis showing that many

motivators for staying center around the children, e.g., affectionate care for children, accompanying the children over time, attachment to the children, the pedagogical approach. Earlier findings support these results by showing that child care teachers enjoy their work and are committed to it, despite the poor working conditions and lack of appreciation, because of the children and the intrinsic rewards (Jorde-Bloom, 1988; Stremmel, 1991).

The qualitative analysis offers additional insights into the motivational process. One indicator of job resources emerges as a major motivation to stay in the job: *the team*. This is in line with earlier findings showing that good co-worker relations are highly associated with job satisfaction (Jorde-Bloom, 1988; Kusma et al., 2012; Manlove, 1993). Considering the nature of child care work, it is plausible that the team may be the strongest resource for child care teachers, because co-workers work closely together and share a huge responsibility when they care for a group of children.

Regarding the energetic pathway, the qualitative analysis shows that distinct stressors drive child care teachers out of the job and out of the profession. It is primarily child care teachers who have left the profession that name stress and strain as reasons for leaving and not child care teachers who have left their job. This difference may indicate that stress sources are seen as inherent to the work, e.g., high (emotional) demands, poor working conditions, huge responsibility, and hardly changeable. Statements such as "things are about same at every child care center or even worse" support this line of reasoning. On the other hand, a perceived lack of professionalism on the part of leadership/management drove child care teachers away from their job. Lack of professionalism comprised many different facets centered around incompetency, bad organization, and irregularities concerning legal guidelines and work procedures. This lack of professionalism may be explained by four factors: the age, the size, the financial scarcity, and

the nature of institutionalized child care in Switzerland. Many child care centers have been opened in recent years, and directors and governing agencies may lack expertise, experience, and knowledge. Moreover, a large percentage of the child care centers are small facilities whose directors have to juggle such diverse tasks as staff management, pedagogical expertise, supervising assistant teachers, dealing with parents (Schulthess, 2009) in a competitive market and with a tight financial budget and shortage of qualified staff. The financial scarcity of especially smaller child care centers limits the possibility to hire floaters and additional staff, which often puts high pressure on the present staff, including the director, if staff is absent (Blöchliger & Bauer, 2014). Additionally, many former lead teachers have started their own child care center and may have underestimated the number of administrative and non-pedagogical tasks required in operating a child care center.

High job satisfaction, including pay satisfaction, is strongly associated with low turnover intention. This finding finds echo in the qualitative analysis, as both stayers and leavers name wages as a reason for staying in or leaving the profession and, to a lesser extent, their job. This suggests that the general wage level drives child care teachers out of their profession and that higher wages have the motivational potential to make them stay. These results corroborate previous findings that wages and satisfaction with pay are important predictors and correlates of turnover intention and turnover among child care teachers (Gable et al., 2007; Hale-Jinks et al., 2006; Stremmel, 1991; Whitebook et al., 1989; Whitebook & Sakai, 2003). Although the general wage level for lead teachers (assistant teachers earn an internship wage) in Switzerland is higher than in the United States, we propose that pay dissatisfaction of child care teachers must be seen in light of the low appreciation for and the poor working conditions of the profession compared to similar professions, such as kindergarten teachers or nurses. Finally, we have to keep in mind

that wages are cofounded with overall better working conditions and working environments due to greater financial resources of the child care centers paying higher wages, and we are not able to disentangle these factors.

In the quantitative analysis, for assistant teachers neither job resources and burnout nor burnout and turnover intention are significantly associated, in contrast to the findings for lead teachers. Two factors may primarily account for these differences: First, job alternatives are scarce for assistant teachers, and assistant teachers are tied to their workplace for 3 years, so they may not be able to leave even if they feel exhausted. Second, assistant teachers experience less job control than lead teachers (Blöchliger & Bauer, 2016). This difference may explain why job resources and burnout are not associated, because the empirical evidence (e.g., Koch et al., 2015; Taris et al., 2005) and theory building (e.g., the Job-Demand-Control model by Karasek, 1979) both indicate the opposite.

The qualitative analysis points to two important set of reasons not included in the tested model that influence the decision to stay or leave: *personal reasons* and *advancement opportunities*. Regarding personal reasons, participants cited motherhood as the most frequent reason for leaving the profession and, to a lesser extent, their job. Whereas some participants did not like to combine teaching and rearing their own children, other participants showed interest in pursuing part-time work but found no job offering the desired working hours. However, incentives such as slots and subsidies for their own children retained a few child care teachers. These findings suggest that adequate part-time jobs and additional benefits may retain teachers who are parents. Against the background that children attend child care part-time (Machmutow et al., 2013) and assistants are required to work part-time due to their school obligations (Flitner, 2009), part-time jobs may pose an additional challenge to organizing a work schedule centered

around the need to ensure sufficient time and continuity between a particular child and a particular child care teacher to establish a secure relationships. To a lesser extent, relocating, commute, and vacation traveling were teachers' reasons for leaving. Among child care teachers the centrality of personal reasons in the decision to leave is in line with previous studies (Manlove & Guzell, 1997; Stremmel, 1991). This may be due to the notion that personal reasons, including family circumstances, more strongly inform the career paths of women than of men (Manlove, 1993; Torquati et al., 2007), a relevant note for a predominately female profession such as child care work.

In the qualitative analysis, advancement opportunities, respectively the lack thereof, emerge as a major reason to either stay or leave. Job opportunities offering more complex tasks and duties and more responsibility, e.g., leading a group, supervising assistant teachers, leading a child care center, were teachers' reasons for both staying at the child care center and leaving their job. This is contrary to Manlove and Guzell's (1997) finding that advancement did not retain child care teachers in the profession. Nonetheless, one fourth of child care teachers who left the profession went back to school to prepare for other jobs, such as elementary school teacher and social worker. Other participants started to work with older children. Jobs with older children not only offer better working conditions, better pay, and more diverse tasks but also more respect (Whitebook & Sakai, 2003). Whitebook and Sakai (2003) found similar career choices among the child care teachers in their sample.

A comprehensive point across different aspects cited as a reason for leaving was "change," e.g., change in the team, the director, or the pedagogical approach. Some participants cited the opposite, "stability," as a reason for staying. This is line with the previous finding (Whitebook & Sakai, 2003) that less stability is associated with higher turnover rates. This may

be due to the disruptive effect of an individual leaving a small work team and the adjustment required of the remaining staff. Additionally, a change in leadership may go along with a change in the pedagogical approach, personnel management, etc. With respect to stability, we have to consider that child care centers in Switzerland already have to deal with the constant turnover that the Swiss child care system entails (natural turnover).

Strengths and limitations

A major strength of these two studies lies in the mixed methods approach. Combining quantitative and qualitative analyses makes it possible to overcome limitations of each method. The application of different methods cross-validates findings and strengthens the explanatory power of the studies (Johnson & Onwuegbuzie, 2004; Mauceri, 2016). The second study linked turnover intention to actual turnover, supporting the importance of examining turnover intention and emphasizing the need to explore additional factors in the decision to leave. Furthermore, the first study tested the JD-R among child care teachers using structural equation modeling, i.e., testing the set of relationships simultaneously, which has not been done before. The content analysis explored the reasons for teachers staying and leaving in greater detail, supporting and expanding the results of the structural equation modeling. Last, this article adds to the existing literature by disentangling the reasons for staying, leaving the job, and leaving the profession. This disentanglement appears to be crucial in tackling retention and turnover among child care teachers, because the reasons differ.

The two studies also have their limitations. First, the cross-sectional design of the first study does not allow causal conclusions to be drawn, which limits the internal validity. The causality implied by the arrows in Figure 7 is misleading, because we are not able to determine the directions of the relationships in a cross-sectional dataset. Second, all measures included in

the structural equation model were self-reports, which increases the risk of common method bias and overestimation of the sizes of relationships (Podsakoff et al., 2012). Third, the measurements for lead teachers and assistant teachers were not invariant. Therefore, we are not able to compare the two groups based on statistical grounds, which further limits the explanatory power of the study.

With respect to the second study, we are not able to assess the actual retention and turnover rate among the participants in the first study due to major limitations: First, we were not able to reach all participants due to lacking and outdated e-mail addresses. Second, participants self-selected into the study, so it appears plausible that a particular group, e.g., the stayers, may have been more likely to participate than others, because they care about the job. Additionally, some participants provided their work e-mail address, so we were not able to reach them if they had left. Third, we were not able to ask questions about the participants' comments—as would be possible in interviews—and hence to contextualize the answers. Additionally, both samples are drawn from a population in a Swiss municipality representing local and national specifics, which limits generalization to other teaching staff populations in other communities and countries. However, the results suggest that correlates of turnover intention and reasons for staying and leaving are similar among child care teachers across regions.

Future research

The two studies show that child care teachers' reasons for staying, leaving their job, and leaving the profession are both similar and distinct. Therefore, future research should further disentangle and explore their reasons for staying, leaving their job, and leaving the profession separately. Whereas many previous studies (Hale-Jinks et al., 2006; Manlove & Guzell, 1997; Torquati et al., 2007; Whitebook & Sakai, 2003) focused on reasons for leaving, future research

should increasingly address reasons for staying. Also, the second study was not able to uncover the real percentage of retention and turnover, but accurate numbers appear important to evaluate the challenges associated with turnover among child care teachers. Future studies should assess the turnover rates among child care staff in different countries, such as across Europe. These rates may also provide information on the role that different working environments and working conditions play in retention and turnover, because early education and care settings greatly differ between European countries (European Commission/EACEA/Eurydice/Eurostat, 2014). In addition, turnover intention accounts for only a part of the variance of actual turnover. Therefore, longitudinal studies need to explore the additional reasons influencing the decision to stay or leave, e.g., personal reasons such as motherhood and job opportunities. Last, although this article has shown that the team is the major reason to stay, there has been little focus on the team in the research on the child care workforce. Consequently, future research should explore why and how the team plays such a central role for child care teachers.

Conclusion

Overall, the findings of these two studies suggest two main set of reasons for child care teachers leaving or staying: First, motivational characteristics such as the team, satisfaction, and the children are crucial for the intention and decision to stay or leave. Additionally, personal reasons often influence this decision. These two points reflect the fact that child care work is women's work, because intrinsic rewards and personal reasons are more important for women's career choices than men's. Second, a lack of professionalism, poor working conditions including wages, and a lack of advancement opportunities—in sum a lack of extrinsic rewards—mainly appear to drive child care teachers out of their job and profession.

7. A Appendix

Table 12: Measurement invariance tests for lead teachers and assistant teachers

Invariance level	χ^2	*p*	AIC	CFI	ΔCFI	RMSEA
Configural invariance	44454	.00	43784	.941	–	.066
Weak invariance	44356	.00	43786	.939	-.002	.065
Strong invariance	44515	.00	44022	.918	-.021	.074
Strict invariance	44540	.00	44071	.913	-.005	.076

Notes. CFI: Comparative Fit Index; RMSEA: Root Mean Square Error of Approximation

Table 13: Multilevel regression estimates for the JD-R variables on turnover intention for lead teachers

	Model 1		
	Est.	*SE*	*t*
Level 1			
Intercept	2.09	0.06	36.04***
Job resources	−0.80	0.13	−6.29**
Job demands	0.12	0.09	1.31
Burnout	0.17	0.08	2.27*
Job satisfaction	−0.27	0.09	−2.84**
Random effects (variances)			
σ^2_{within}	0.90		
σ^2_{u0}	0.33		
df	244		
Pseudo R^2	0.36		

Note: *$p < .05$. **$p < .01$, ***$p < .001$.

Table 14. Multilevel regression estimates for the JD-R variables on turnover intention for assistant teachers

	Model		
	Est.	*SE*	*t*
Level 1			
Intercept	2.09	0.06	36.04***
Job resources	−0.80	0.13	−6.29***
Job demands	0.12	0.09	1.31
Burnout	0.17	0.08	2.27*
Job satisfaction	−0.27	0.09	−2.84**
Random effects (variances)			
σ^2_{within}	0.93		
σ^2_{u0}	0.30		
df	239		
Pseudo R^2	0.35		

Note: *$p < .05$. **$p < .01$, ***$p < .001$.

8. General discussion

This thesis set out to answer the questions, "*why do child care teachers stay?"* and "*why do child care teachers leave*?" To answer these questions, this thesis addressed five concepts that are elements in the modified JD-R model that are hypothesized to contribute to turnover intention and, in turn, turnover: Structural and personal characteristics, job resources, job demands, and burnout. Moreover, this thesis explored the relationships between job demands, job resources, burnout, and job satisfaction and turnover intention and reasons for actual staying or leaving. In the following, I will discuss the findings of this thesis based on their relevance for retention and turnover of child care teachers. I will start by discussing the theoretical approaches and their applicability to the child care profession. Then, I will discuss the results categorized in topics that have emerged to be relevant for retention and turnover among child care teachers in the four studies. In closing, I will outline how the findings of the four studies – in line with the international research body – refer to the broader context of early care and education in our society that can be subsumed under the concept of "child care as a marginalized profession" (Fenech et al., 2009) and its implications. Table 12 provides an overview about the aims, data, findings, and conclusions of the four studies.

Table 15: Overview about the aims, data, findings, and conclusions of the four studies

Study	Aim	Data	Findings	Conclusions
Study 1	1. To describe and compare job resources and job demands among child care teachers with different educational backgrounds. 2. To identify the most important personal and structural (center) correlates of job resources and job demands among child care teachers.	Data A.1	1. Lead teachers reported higher levels of job resources and job demands than assistant teachers. 2. Predominantly structural (center) characteristics were significantly associated with reported job resources and job demands of child care teachers. 3. Structural characteristics associated with professionalism (e.g., the pedagogical approach, employment conditions) were linked to job resources; adequate staffing levels were related to job demands with some variation for the two groups.	1. The findings imply that lead and assistant teachers differ in their work experience. 2. The findings suggest that (1) working conditions and work organization that foster professionalism should be targeted for improvement measures and (2) ensuring high child-to-staff ratio in daily practice should be a priority.
Study 2	1. To explore to what extent burnout levels are clustered in child care centers. 2. To identify the most important individual and organizational correlates of lead teachers' burnout levels based on the concept of the Areas of Worklife.	Data A.1, Data A.2	1. The child care center matters for the experienced burnout levels. 2. Lower perceived control and reward (pay satisfaction) on the individual level and higher workload on the organizational (director's assessments) were associated with higher experienced burnout levels.	1. The findings refer to the importance of reward in terms of pay satisfaction among child care teachers. 2. The findings imply that the individual level as well as the organizational level should be targeted to tackle burnout.

Study 3	To explore turnover intention among lead and assistant teachers based on the Job Demands-Resources model.	Data A.1	1. The JD-R model holds for lead teachers but not for assistant teachers. 2. The association between reported job resources and turnover intention mediated by job satisfaction is much stronger than the association between reported job demands and turnover intention mediated by burnout.	1. The findings suggest that the JD-R model only apply to workers in ordinary work arrangements. 2. The results suggest that the motivational pathway to turnover intention is stronger than the energetic pathway among child care teachers.
Study 4	1. To investigate if turnover intention predicts turnover of child care teachers. 2. To explore the reasons for staying, leaving the job and leaving the profession.	Data A.1, Data B	1. Turnover intention at t_1 predicted turnover at t_2. 2. The content analysis has revealed that the team, positive aspects of the work, and professional workplaces motivated child care teachers to stay; a lack of professionalism and advancement and personal reasons drove child care teachers out of the job; and poor working condition and wages, a lack of professionalism and advancement, stress and strain, and motherhood drove child car teachers out of the profession.	1. The findings suggest that turnover intention is a valid predictor of turnover. 2.The findings imply that in particular intrinsic rewards motivate child care teachers to stay and a lack of extrinsic rewards drives them out of the job or profession.

8.1 The theoretical approaches and the child care workforce

In the following, I will briefly discuss the applicability of the two theoretical approaches to the child care workforce and draw conclusions about the approaches.

The Job Demands-Resources model in the child care workforce

While Kusma et al. (2012) applied the JD-R model partially to the child care workforce to explore job satisfaction, this study is the first to test the JD-R model entirely on the child care workforce. The analyses in study 3 have yielded that the relationships hypothesized in the JD-R model hold for lead teachers, but only partially hold for assistant teachers. First, this finding implies that job demands and job resources of lead teachers contribute to our understanding why lead teachers stay or leave. Second, this finding suggests that lead and assistant teacher differ in their work experience and work-related outcomes such as turnover intention.

The specific pattern of the relationships, the strength of the path 'job resources --> job satisfaction --> turnover intention' in contrast to the path 'job demands --> burnout --> turnover intention', resonates with the pattern found among women in a sample of information technology workers – compared to the men's pattern (Hoonakker et al., 2013). This is consistent with the results of the studies presented here because the sample used in study 3 comprises 94% women. Hoonakker et al. (2013) emphasize that the relationships between the concepts, but not the concepts per se did differ between women and men in their study. Huang, Xing, and Gamble (2016) have also shown that the relationships between job demands, job resources, and well-being were different for women and men in their sample of retail store employees. However, Korunka et al. (2009) found no gender differences in the relationships hypothesized by the JD-R model in their sample of white and blue collar workers. Thus, the evidence for gendered

relationships in the JD-R model is inconsistent. One possible explanation for this inconsistency is that gender differences in the JD-R model depend on the job (Huang et al., 2016).

Considering the findings presented here and the indications for gender differences in the studies by Hoonaker et al. (2013) and Huang et al. (2016), one possible explanation for the strength of the motivational path found in study 3 is that it represents a female characteristic. Previous studies have shown that job satisfaction and meaningfulness of work were closer related to turnover intention among women than among men (Hoonakker et al., 2013). Meaning of work and job satisfaction belong to the intrinsic rewards of work. In a similar vein, the results of the content analysis in study 4 have revealed that intrinsic rewards such as joy and a fondness for the children in their care motivated a high percentage of the child care teachers to stay. This finding is again consistent with previous research on child care teachers (Fuchs-Rechlin, 2010; Hall-Kenyon et al., 2014; Kontos & Stremmel, 1988; Schreyer & Krause, 2016; Torquati et al., 2007; Wells, 2014). One explanation pertains to the different socialization of women and men insofar as the gendered roles and expectation may encourage women to choose different professions and make different career choices than men (Cech, 2013; Correll, 2004; Reskin, 1988). Another explanation – that is connected to the first one – for the greater role of intrinsic rewards for work-related behaviors among women than among men is that women usually do not fulfill the role of a breadwinner (Bear & Glick, 2016) and thus rely less on extrinsic work rewards such as pay.

The differences between lead and assistant teachers may originate in the specific job arrangement – an internship or an apprenticeship includes a binding contract for a certain period – of assistant teachers, while the JD-R model is designed for workers in ordinary work arrangements. The section “lead and assistant teachers" will further explore the differences between lead and assistant teachers.

The Worklife Areas in the child care workforce

Alike Leiter (2015) demonstrated the relevance of the six worklife areas (Leiter & Maslach, 2004) for the nursing profession; study 2 has highlighted that the six worklife areas are also relevant for burnout levels among child care teachers. More specifically, control and reward (in terms of pay satisfaction) on the individual level and workload on the child care center level were significantly related to the experienced levels of burnout symptoms. This result is in line with the body of burnout research that stresses that control and workload are closely associated with burnout levels across occupational groups (Portoghese et al., 2014; Seidler et al., 2014) and among child care teachers (Koch et al., 2015). Moreover, the result suggests that reward - in terms of pay satisfaction - is central for work-related outcomes of child care teachers – as previous studies have highlighted (Goelman & Guo, 1998).

As outlined in the section “Critical discussion of the theoretical approaches", the concept of the six worklife areas may offer important starting points to reflect on burnout as work-related outcome, but is limited in its explanatory power due to its broadness of categories. Overall, the six worklife areas represent areas relevant in the child care profession. Concomitantly, the six worklife areas are correlates of burnout, but experienced burnout levels were weaker associated with turnover intention than job satisfaction in study 3. Therefore, burnout appears to play a subordinated role for turnover intention and thus turnover of the teaching staff compared to job satisfaction. With respect to the investigation of the concept, study 2 has several shortcomings that the section on limitations will address in more detail.

The two theoretical approaches: A conclusion

Both approaches have a number of advantages and shortcomings. For the JD-R model, the distinction between job resources and job demands as well as job characteristics and outcomes is still unclear. The JD-R model in this thesis has been expanded by personal and structural characteristics as antecedents of job resources and job demands. The analyses have yielded that the personal characteristics play a subordinate role – a finding that may lend support to the reliance of the JD-R model on job characteristics. Additionally, the distinction between structural characteristics and job resources and job demands in the modified JD-R model used in this thesis is also questionable. It is plausible that structural characteristics can either influence the perception of job resources and job demands – defined as process variables – or act as a resource or a demand in themselves. For the AWL, the broad conceptualization of the worklife areas does not allow to determine what feature of a certain worklife area is associated with burnout. The limitation to six areas may result in an overlooking of relevant areas associated with burnout in a specific occupation. The results of the four studies suggest that both theoretical approaches used, the JD-R model and the AWL, are generally applicable to the child care workforce. However, assistant teachers are not represented in the JD-R model presumably due to their specific work arrangement. The AWL appears to be highly relevant in the child care workforce which may be due to the fact that the model was designed for human services.

8.2 Reasons for staying or leaving

This section discusses the findings of the four studies classified into the themes that emerged to be crucial for turnover and retention among child care teachers: *working environment and working conditions*, *leadership and management*, *staffing levels*, *wages and pay satisfaction*, *lead and assistant teachers*, *advancement opportunities,* and *child care work as women's work*. In closing, the section outlines how the findings of the four studies and the international findings can be explained by the concept of "child care work as a marginalized profession".

Working environment and working conditions

Study 1 has shown that those structural characteristics indicating a professional framework for the work (e.g., the pedagogical approach, the employment conditions, amount of preparation and planning time) are the correlates most closely associated with reported job resources among child care teachers. Study 3 has demonstrated that job resources are associated with turnover intention through enhanced well-being as well as reduced burnout. The content analysis in study 4 has further substantiated the importance of a professional respectively unprofessional working environment because the participants often cited different features related to a professional work environment, e.g., "professional work procedure," "well organized center," "too much responsibility for assistant teachers," "good working conditions," "good employer," as reasons for staying or leaving. Overall, these findings are in line with the body of research illustrating strong positive associations between good working conditions and working environments and positive work-related outcomes, such as high job satisfaction, well-being, low turnover intention, among child care teachers (e.g., Goelman & Guo, 1998; Hall-Kenyon et al., 2014; Schreyer & Krause, 2016; Viernickel et al., 2014; Wells, 2014).

The perceived favorable structural features associated with higher job resources were *implementation of the pedagogical approach*, *good employment conditions*, *more preparation and planning time (for lead teachers)*, *support by the governing agency*, and *adequate staffing levels*. These features enable the teaching staff to accomplish their work on a sound professional foundation. The results from the content analysis corroborate these findings insofar as child care teachers often mentioned professionalism or a lack of professionalism in their facility as a reason for staying or leaving. Professionalism pertains to a wide range of aspects: the working environment, the pedagogical approach, the leadership and management (the next section will address them in greater detail) etc. Child care teachers in study 4 often used the word "professional" to describe their work environment, employer, or director. This word choice implies that the child care teachers are aware of the differences in professionalism across child care centers and assess their workplace in relation to others.

Child care centers that can provide favorable manifestation in these characteristics appear likely to have greater financial resources in general than the centers offering unfavorable conditions. For example, a greater financial leeway enables agencies to employ more and more educated staff who may be responsible for specific tasks, e.g., pedagogical issues, the supervision of assistants, and floaters. Because of the great diversity of providers in the city of Zurich – seven different legal entities ranging from the public hand to for-profit companies –, agencies greatly differ in their financial resources (Federas, 2015). For example, the public hand pays 30% higher wages than the private agencies because it pays their employees in accordance with the public collective agreement. Additionally, agencies operating more than one child care center are able to pool tasks and duties, e.g., supervision of assistants, substitution by floaters, while small

agencies need to unite tasks as diverse as pedagogical expertise to personnel management in a few hands.

Leadership and management

A further aspect that is critical to professionalism is leadership – both, the leadership of the directors and the management (the governing agencies). A high percentage of participants in the study 4 stated that features associated with a professional respectively, an unprofessional leadership and management caused them to stay or leave. Moreover, higher reported job resources were closely associated with higher job satisfaction, lower experienced burnout levels, and lower reported turnover intention in study 3 whereby leadership quality was one indicator of job resources. At last, perceived higher support by the governing agency was positively related to job resources among assistant teachers in study 1. In sum, these findings imply that leadership quality of directors and agencies are related to turnover intention – and associated with retention and turnover – of the child care teachers. The findings are consistent with previous results reflecting the importance of the support by child care directors (Fuchs-Rechlin, 2010; Hale-Jinks et al., 2006; Jorde-Bloom, 1988; Kusma et al., 2012) as well as the governing agency/management (Kliche, 2011; Rudow, 2004) for the well-being, retention, and turnover of child care teachers.

A closer look at the qualification requirements for directors and governing agencies in early care and education settings may explain the specific problems of leadership and management in the child care centers in this study: The guidelines require directors to hold a management degree besides their vocational college diploma – less than a bachelor's level – and the guidelines do not require governing agencies to have any pedagogical expertise

(Bildungsdirektion Kanton Zürich, 2014; Schulthess, 2009). These low and distinct qualification requirements not only lay ground for tensions between care and business orientations – a problem likely to arise in early care and education settings that are privately run (Campbell-Barr, 2009) –, but are also likely to generate an overload of tasks, duties, and responsibilities directors and agencies are not adequately prepared for.

Staffing levels

Study 1 has shown that higher perceived staffing levels were associated with lower reported job demands and higher reported job resources of teaching staff (with some variation for lead and assistant teachers that the section "lead and assistant teachers" will address). Study 2 has demonstrated that the workload on the child care center level was associated with lower experienced burnout levels of lead teachers. Finally, study 3 has demonstrated that reported job resources and job demands were both related – through reported well-being and burnout – to the reported intent to turnover. Additionally, the content analysis in study 4 has revealed that inadequate staffing levels were a reason to leave. Taken together, these findings suggest that some child care teachers leave due to inadequate staffing levels.

Overall, the findings resonate with the extant research literature showing that adequate staffing levels are key for a positive working experience and positive work-related attitudes and behaviors among child care teachers (Andersson & Gørtz , 2010; Hackl et al., 2015; Maslach & Pines, 1977; Schreyer & Krause, 2016; Strober et al., 1995; Viernickel et al., 2014). This pertains to the perceived staffing levels as well as the staffing levels on the child care center level (assessed by directors) alike. Andersson and Gørtz (2010) have shown in their study that child-

to-staff ratios based on administrative reports predicted the likelihood of turnover of child care teachers.

Adequacy of staffing levels pertains to the child-to-staff relation as well as to the qualification of staff. The actual staffing levels differ from the required child-to-staff ratios because child-to-staff ratios are often not met in practice due to staff absences and shortages (Viernickel et al., 2014). While the positive effects of higher staffing levels appear evident - the workload is lower, teaching staff has more time to individually interact with the children, child care teachers are able to complete their paperwork during the regular working hours, team meetings and guidance meetings with assistant teachers take place etc. - the negative effect of lower staffing levels goes beyond the daily work: In an understaffed environment, child care teachers need to postpone the activities necessary for providing good pedagogical work, such as preparation and planning or team meetings, in order to take care of the children. Consequently, adequate staffing levels may enable teachers to do the job in a way they feel committed to. The deployment of floaters can compensate for staff absences – as reflected in study 1 where the perceived availability of floaters was associated with lower reported job demands among lead teachers. While agencies and directors have the responsibility to ensure adequate staffing levels in their center, their efforts depend on the financial resources of the center as well as the availability of qualified staff. In Switzerland, there is a shortage of qualified teaching staff in early care and education – just like in Australia and Germany (Bertelsmann Stiftung, 2016; Sumsion, 2007).

Wages and pay satisfaction

In study 2, lower perceived pay satisfaction was associated with lower experienced burnout levels of lead teachers and in study 3, job satisfaction including pay satisfaction was highly associated with the reported turnover intention of child care teachers. Moreover, individuals often cited the wage as a reason to stay or leave in study 4. These findings suggest that pay satisfaction and wages are associated with lead teachers' retention and turnover. The results are in line with previous studies that have over and over identified wages and pay satisfaction permeating all child care teachers' work-related outcomes (Hale-Jinks et al., 2006; Stremmel, 1991; Viernickel et al., 2014; Whitebook et al., 1989; Whitebook & Sakai, 2003).

This finding is particularly instructive against the background that the wage level in Swiss child care centers is higher than for example in the U.S. and in Germany and indeed comparable to the wages in other female vocational professions (Federas, 2015). Nonetheless, child care teachers are dissatisfied with their wages. Therefore, wages and associated pay satisfaction need to be viewed in conjunction with the relatively poor working conditions and working environments, and low recognition of the profession (Blöchliger & Bauer, 2014). A comparison with the professional group who does the work most similar to teaching in early care and education – the kindergarten teachers who take care and education children aged 4 to 7 years old – may be instructive to understand this conjunction: Child care teachers face longer working hours directly with the children (42 hours vs. 24 hours in the kindergarten), they have less time for preparation and planning (ca. 2 hours vs. 8-16 hours per week), and fewer vacation days (4 weeks vs. 12 weeks) . Additionally, the entry level-wage for child care teachers is 35% lower than the entry-level wage of a kindergarten teacher (Erziehungsdirektoren-Konferenz, 2014; Federas, 2015). And while kindergarten teachers' wages are steadily increasing with longer job

tenure, child care teachers' wages are barely increasing (Erziehungsdirektoren-Konferenz, 2014; Federas, 2015). Moreover, most child care teachers are required to do an internship before they start the apprenticeship because most apprenticeships are offered to interns although the education reform in 2006 abolished the compulsory internship. Consequently, child care teachers are required to work one or two years for an internship wage[23]. The authorities justify these differences by stressing the different qualification for kindergarten teachers – kindergarten teachers are required to hold a bachelor's degree. Child care teachers compare themselves with kindergarten teachers and hence feel inadequately rewarded (Blöchliger & Bauer, 2014). Additionally, these huge pervasive differences can neither be justified from a pedagogical nor a developmental psychological point of view (Institute of Medicine (IOM), & National Research Council (NRC), 2015) and contrast with the high responsibility child care teachers take (Derungs, 2009).

Lead and assistant teachers

With respect to differences between lead and assistant teachers, study 1 has shown that lead teachers report higher levels of job demands and job resources than assistant teachers – with the exception of team climate and leadership quality. Additionally, assistant teachers' reported job demands and job resources are more closely associated with perceived adequate staffing levels, while reported job demands were not associated with the perceived availability of floaters. Finally, the associations hypothesized in the JD-R model also differed between lead and assistant

[23] The internship wage is approximately one fifth or one fourth of a "living wage"; Switzerland has no legal minimum wage.

teachers in study 3. All together, these results indicate that lead and assistant teachers strongly differ with respect to their work experience and work-related outcomes in the Swiss early care and education settings. The findings are in keeping with some of the previous research (Curby et al., 2012; Løvgren, 2016; Sosinsky & Gilliam, 2011; Wells, 2014), but differ from findings claiming that these two groups do not significantly differ (Bullough et al., 2012; Kontos & Stremmel, 1988). These discrepancies may be explained by differences between assistant teachers in the U.S. and in the Swiss system. In contrast to the Swiss workforce, lead and assistant teachers are much more similar in the U.S. with respect to education, wage levels, working arrangements etc. (Kibesuisse, 2014; Whitebook et al., 2014).

For the Swiss workforce, the findings may reflect the different roles, duties, and tasks of the two groups. Lead teachers perform more administrative tasks and thus need – and usually have – more time for planning and preparation and documentation (KITAS/ASSAE/ASSAI, 2008). Therefore, – and as described in the section "staffing levels" –, in particular lead teachers need to postpone administrative work, when staff is absent, and, instead, work with the children. Consequently, floaters unburden lead teachers more strongly than assistant teachers, because assistant teachers usually work most of the time with the children anyway.

Advancement opportunities

Study 4 has revealed that the lack of advancement opportunities in the field drove a high percentage of the participants out of the job and the profession. Researchers have observed these limited career options also in the German and U.S. early care and education context (Manlove & Guzell, 1997; Viernickel et al., 2014; Whitebook & Sakai, 2003). The career of a child care

teacher is limited to becoming a group leader, an assistants' supervisor and a child care center director in Switzerland.

These limited advancement opportunities in early care and education are also the result of the decision on the part of the authorities in 2006 to maintain teaching in early care and education as a vocational profession in Switzerland (Flitner, 2009). This decision stands against a large research body that suggests that high care quality is dependent on highly qualified staff (OECD, 2006; Whitebook & Sakai, 2003) and the practice in many European countries that require child care teachers to hold a university level degree (European Commission/EACEA/Eurydice/Eurostat, 2014).

Child care work is women's work

Study 4 has shown that personal reasons, e.g., motherhood or a long commute, were frequent reasons to leave the profession and the job. One third of the child care teachers who left the profession cited "motherhood" as a reason to leave. This finding implies that personal reasons play a major role in the decision to leave among child care teachers. Thereby, some participants indicated that they would have continued teaching in early care and education if their facility had offered them the desired number of working hours or their director would have kept them. This finding lends support to earlier findings that personal reasons are related closely to turnover intention among child care teachers (Manlove & Guzell, 1997; Stremmel, 1991), and the more general notion that women's career choices are strongly shaped by personal reasons (Manlove, 1993; Torquati et al., 2007).

As child care work is predominately women's work, personal reasons including family responsibilities are crucial. Gratz and Claffey (1996) reported that 25% of the child care teachers

in their sample got pregnant since working in early care and education. With respect to fatherhood/motherhood, child care work may be a special profession because continuing to work may include to hand over the own children to an institution or individual while caring for other children.

The team

Study 4 has highlighted that the team is a major motivator for child care teachers to stay (more than two thirds of the stayers cited the team and work climate as reason to stay). In addition, the team climate was one indicator of job resources and thus closely associated with reported lower turnover intention in study 3. The important role of support from co-workers for child care teachers' job satisfaction and work-related outcomes is in keeping with previous results (Jorde-Bloom, 1988; Jungbauer & Ehlen, 2015; Kusma et al., 2012; Løvgren, 2016). The team is the core unit in child care; a small group of lead and assistant teachers usually care for and educate one children's group. Therefore, a supportive team may be a necessary prerequisite to stem the daily work.

Child care work – a marginalized profession

Drawing on the findings of the studies presented here as well as the body of international research, I argue that most reasons for child care teachers' turnover point to the wider context of early care and education settings that can be subsumed under the notion that child care is a "marginalized profession" (Fenech et al., 2009). Fenech et al. (2009) argue that this marginalization comes to the fore in the policies pertaining to the early care sector and the scare funding allocated to this sector all of which result in pervasively poor wages, poor working

conditions, and the low recognition of the child care teacher profession as compared to their counterparts, that is, kindergarten or primary school teachers (Fenech et al., 2009).

The findings of the four studies indicate that child care teachers mainly leave due to the relatively poor working conditions and low wages, a lack of professionalism, lack of advancement opportunities, stress and strain – and only to a lesser extent due to personal reasons such as motherhood. Most of these reasons are an outcome of the marginalized position of early care and education as compared to kindergarten and school in Switzerland. The existing body of research generally points out that working environments and working conditions are relatively poor in most countries (OECD, n.d.), that pay is low internationally (Gambaro, 2012), and that child care teachers receive little recognition for their work across countries (Fenech et al., 2009; Hackl et al., 2015). The image of the child care teacher as a woman "who crafts and plays a little bit with children" is still common (Hackl et al., 2015). Moreover, the high percentage of non-qualified professionals across countries (European Commission/EACEA/Eurydice/Eurostat, 2014; OECD, 2010) – in line with the legal guidelines (e.g., KITAS/ASSAE/ASSAI, 2008) – reflects the idea that child care is seen as "unskilled" or "unprofessional" kind of labor that any person can do. This is also reflected in the policy that "caring for own children belong to professional experience" (Bildungsdirektion Kanton Zürich, 2014). These low requirements contrast with the empirical evidence that shows that higher qualifications of staff benefit care quality (e.g., the meta-analysis by Huntsman, 2008). Leadership and management –associated with a lack of professionalism – emerged as another reason for leaving among child care teachers. This phenomenon can also be observed across countries, because child care directors often lack time for the administrative tasks. Their health is also relatively poor, and their pay comparatively low (Lange, 2017; Mullis et al., 2003). The limited advancement opportunities –

another reason for leaving the job – are another result of the marginalization of the profession because they are the direct result of the education requirements for child care teachers as well as the wage levels. However, personal reasons such as motherhood were also reasons to leave for child care teachers. Motherhood as a reason for leaving could be partially absorbed in more professional work environments where part-time jobs would be available or places for one's own children were subsidized.

The similarity of these findings is even more striking against the background of the highly diverse contexts of early care and education settings across countries and regions with respect to funding (public vs. private), staff education, ages of children served (European Commission/EACEA/Eurydice/Eurostat, 2014). These pervasive differences between child care teachers and their counterparts the kindergarten and primary teachers cannot be explained through characteristics inherent to the work or the importance of the work. Therefore, these features may reflect the de-valued importance of reproductive labor, i.e., domestic labor such as cleaning, cooking, and child care that is often unpaid and considered female in capitalist societies (England, 2005; Federici, 2014). Therefore, in order to tackle the high turnover this marginalization of child care work needs to be addressed on multiple levels such as adequate levels of funding, societal attitudes, stricter polices including higher qualification requirements for staff. Funding, however, appears to be the priority because most other aspects are directly dependent on funding.

8.3 Strengths of this thesis

This section highlights the major strengths of this thesis. Overall, this thesis expands the extant body of research on the child care workforce through theoretical and methodical

advancements. This thesis provides a theory-driven comprehensive picture about the work experience and work-related outcomes among child care teachers in a city in Switzerland. To date, this thesis comprises the first large-scale study on the Swiss child care workforce.

From a theoretical perspective, this thesis unites two major research lines - the German and the U.S. one, complemented by international studies - and integrates them into a theoretical framework, the Job Demands-Resources model (Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014). Furthermore, this thesis validates the JD-R model on the child care workforce. Thus, this thesis extends the evidence of the robustness of the JD-R model by adding another occupational group. In addition, the results of this thesis add to the empirical evidence that the JD-R model may have a gendered expression – advancing the knowledge about the JD-R further. Furthermore, the thesis also has applied the concept of the AWL to the child care workforce and has shown that these areas are highly relevant in the child care workforce.

From a methodological perspective, this thesis relies on a relatively large sample comprising lead teachers, assistant teachers, and child care center directors. Further, this thesis uses a wide range of different state-of-the-art methods and combines quantitative and qualitative analyses as well as cross-sectional and longitudinal designs. Consequently, this thesis overcomes the limitations single methods and designs involve: The large samples used in the study 1 and 3 allow assessing a large percentage of information and thus increase the generalization of the results, as well as enables to test several relationships simultaneously (study 3). However, the mixed-effects models conducted in study 2 take the nested data structure into account and are adjusted for possible overestimations prone to arise when the nested data structure is neglected. Additionally, the inclusion of organizational level characteristics advances the knowledge beyond the individual level variables relying on self-reports. The longitudinal design of study 4

allows to assessing turnover among child care teachers over the course of three years and verifies the explanatory power of the turnover intention for actual turnover of child care teachers. The content analysis (also study 4) provides insights into the processes of turnover and lends support for the findings of the studies 1, 2, and 3. Finally, this thesis accounts for differences between lead and assistant teachers expanding the state of knowledge about differences between these two groups.

8.4 Limitations of this thesis

This thesis has several shortcomings that I will outline categorized into *sample, design and analyses,* and *measures.*

Sample

One major limitation of this thesis pertains to the samples. The samples represent one community in Switzerland and thus represent specifics of the national as well as the community context. This limits the generalization of the results to other contexts. Moreover, the sample only comprises staff working in publicly co-financed child care centers that may do not represent staff in child care centers where all parents pay the full costs. As the fees in Switzerland are the highest worldwide (OECD, 2014), these child care centers serve in all likelihood children with a higher socioeconomic background than the other centers. Therefore, the sample is even not representative for the child care centers in the city of Zurich. Furthermore, we recruited the majority of the participants in the first questionnaire-survey – and, as a result, also of the second questionnaire-survey – through an email to the child care center directors. This recruiting method may have produced a biased sample insofar as the sample represents well-managed and -staffed

child care centers, because, arguably, the directors in those centers may have had more resources to forward the questionnaire to their employees and to offer them time to complete the questionnaire during working hours. The finding that the assistant teachers questioned through the center reported more favorable working conditions and better work-related outcomes than their counterparts questioned in vocational college supports this assumption. Moreover, two additional circumstances may have increased the risk for answers biased by social desirability. The directors were required to take part in the survey by the authorities due to the service contract with the Department for Social Affairs. The directors distributed most questionnaires to the participants in the first survey which may have led to the feeling that the director was involved in the survey. As the questionnaire pertains to one's own working situation and therefore one's own existence, it is a sensitive topic. A call from a child care teacher during the collection substantiates this claim because she told that her director requested the employees to hand in the completed questionnaire and expressed her concern that the answers may not represent the actual situation.

With respect to the second sample, two major concerns arise: First, participants self-selected into the study and thus it is likely that more participants who had stayed in the profession took part because they have a stronger and more positive connection with the topic. Second, some participants provided their work email-addresses in survey 1. Consequently, we were not able to reach them with the second questionnaire when they had left their job. Both limitations prevent from generalization as well as an approach to the percentage of actual turnover and retention.

Design and analyses

A further limitation is the designs of the four studies that do not allow drawing causal conclusions and thus to distinguish between cause and effect. This shortcoming limits the internal validity of the studies. Moreover, the analyses in study 1 neglected the nested structure of the data, i.e., child care teachers nested in child care centers, what may have decreased the power of the test and biased the results because the assumption of independence of assessments hold in this type of analyses was violated (Moerbeek, 2004). The analyses in study 2, however, took the nested structure into account, but excluded a large percentage of the assessments – meaning a loss of information.

Measures

The first survey was conducted in an applied project on behalf of the Department for Social affairs, city of Zurich, the aim of which was to describe the working situation of the teaching staff. Therefore, the questionnaire comprised a wide range of scales. While many scales were well validated, e.g., the COPSOQ II for burnout (Pejtersen et al., 2010), the Team Climate Inventory for support by the team (Anderson & West, 1998), other scales, e.g., the AQUA questionnaire for child care teachers, were not validated, but applied specific to the child care workforce. Moreover, some scales were slightly adapted to the Swiss context. To ensure the understanding and applicability, we tested the questionnaires in a pretest. However, this shortcoming limits the comparability of the results. The comparability of the results of this thesis is further restricted by the scales chosen to measure burnout and the six worklife areas because the questionnaire did not include the most widely used measurement instruments. In particular, neither a comparative measure, nor a test of the relationships as proposed by Leiter and Maslach

(2004) were used for study 2. However, these included measurement instruments are of high relevance to the child care workforce. Moreover, study 1, 3, and 4 relied entirely on self-reports which heightens the risk for inflated relationships due to common method bias (Podsakoff et al., 2012).

8.5 Future research

The results presented raise many questions that future research should address. First, the findings in study 1 suggest that the relationships in the JD-R model may have a gendered expression. Future studies should address this question by comparing women and men directly or by also exploring male dominated professions. Second, although anecdotal evidence from staff in the profession suggests high turnover rates in Swiss child care centers, valid data is lacking. What is needed is an estimation of turnover and retention that relies on a more objective basis than such administrative reports. Before addressing a phenomenon, the extent of the phenomenon should be known. Additionally, the collection of turnover rates should be extended to other regional and national contexts. The turnover rates in Germany appear to be lower than elsewhere. Thus, a comparison between the German and other national context may be instructive about the reasons for the greater retention rate in Germany.

In a similar vein, this thesis has highlighted that adequate staffing levels are associated with a broad range of work-related outcomes. Therefore, future studies should advance the knowledge about the effects of actual staffing levels based on more objective measures than self-reports such as administrative reports and observational measures. The same procedure should also be applied with respect to the wages in the Swiss context. Study 2 and 3 have highlighted that pay satisfaction is highly associated with burnout levels as well as turnover intention and

study 4 has shown that low wages were a reason to leave. Nonetheless, these findings need to be extended by the actual wage level. This thesis has not investigated a number of areas that other studies have shown to be also relevant for the child care workforce: physical health, emotional demands, meaning of work, and the role of the team. Future studies including these topics would enhance our understanding of specific challenges and motivations of this occupational group.

At last, future studies should delve deeper into the topic of personal reasons that motivate child care teachers to leave. One frequent personal reason to leave the profession was motherhood. Topics worth investigating in relation with fatherhood/motherhood would be how to organize part-times jobs to benefit the welfare of the teachers and children and whether child care teachers would entrust their children themselves to the institution they are working for.

8.6 Conclusion

This thesis set out to answer the questions *why child care teachers stay* and *why they leave*. The results of the studies suggest that child care teachers primarily stay due to the character of the work as such (intrinsic rewards) and primarily leave due to the conditions under which the work takes place (lack of extrinsic rewards). On the one hand, working with children, the team, a pedagogical approach child care teachers identify with in conjunction with a professional workplace and relatively good working conditions were the reasons that caused the child care teachers to stay. Child care teachers appear to gain their motivation from the intrinsic rewards offered by the work and the people involved (children and co-workers). On the other hand, a lack of professionalism, inadequate staffing levels, and lack of advancement drove child care teachers out of the job; relatively poor working conditions and wages, a lack of

professionalism, inadequate staffing levels, stress and strain, and motherhood drove child care teachers out of the profession. Consequently, for many child care teachers, the intrinsic rewards are not sufficient to compensate for the lack of extrinsic rewards over time. Rather, it appears likely that the lack of extrinsic rewards may negatively impact the experience of intrinsic rewards when the workplace undermines the possibility to do the job in a way child care teachers feel committed to.

International studies as well as the results of the studies presented here reveal many similarities in the work experience of child care teachers across countries and regions with only minor regional and national variations. Against the background of the diversity of the early care and education sector - with respect to qualifications, age of children served, policies, public versus private governing agencies, profit orientation of facilities etc. - this similarity in work experiences likely refers to the wider context of early care and education settings in industrialized Western societies that make child care a marginalized profession. This marginalization is reflected in the low pay and the relatively poor and unprofessional working environments and conditions compared to kindergarten/primary teachers, the high percentage of untrained workers, the staff shortage, the low qualification requirements, the low recognition of the work, as well as the relative scarce research pertaining to this occupational group. Most of these aspects are the direct result of the scarce funding allocated to this field. On these grounds, it appears likely that turnover rates of child care teachers will not drop considerably as long as this marginalization is maintained.

In Switzerland, due to historical circumstances and prevailing social attitudes, the majority of facilities in early care and education are privately-run. Additionally, for-profit companies have entered the market – also across national border – in the past years (Bossard,

2014; Sumsion, 2007). As child care is as a very labor intensive type of work that is not likely to generate profits, this development may even aggravate the present difficult situation. Moreover, the findings of the four studies point to the importance of professionalism, but further research is needed in order to establish what kind of professionalism actually serves teachers and children in early care and education. Therefore, the international studies and the four studies presented raise the question whether early care and education can be left to voluntary, private, and independent sector or whether it should be considered a public good that should be publicly funded to an adequate level.

9. Literature

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Curriculum vitae

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EDUCATION

Doctoral program (Advisor: Prof. Dr. Urte Scholz) **Aug 2014 –present**
Institute of Psychology, University of Zurich, Switzerland
Thesis title "Towards a greater understanding of why child care teachers leave: Examining job resources, job demands, burnout, turnover intention, and turnover among lead and assistant teachers in a Swiss community"

Master of Psychological Science **May 2012**
University of Zurich, Switzerland
Master's Thesis: "Mental representations about police control of Black immigrants in Zurich, Switerzland"
Bachelor's Thesis: "Psychosocial factors influencing the consumption of drinking water in rural Bangladesh"

Major: Social Psychology
Minors: Modern history & Psychopathology

High school diploma ("Matur") **2002**
Kantonsschule Oerlikon, Zurich, Switzerland

RESEARCH EXPERIENCE

PhD candidate SNF **April 2016 – April 2017**
Applied Social and Health Psychology, Department of Psychology, University of Zurich, Prof. Dr. Urte Scholz
Research project: 'Why do child care workers leave? Why do they stay?"

Research assistant **April 2015 – Aug 2015**
University of California, Berkeley, Center for the Study of Child Care Employment

Research project: 'The state of early childhood higher education' and 'Supportive environment quality underlying adult learning (SEQUAL)'

PhD candidate SNF **June 2014 – March 2016**
Epidemiology, Biostatistics, & Prevention Institute, University of Zurich, Switzerland
Dr. Georg Bauer
Research project: 'Why do child care workers leave? Why do they stay?"

Researcher & Project manager **Feb 2013 – May 2014**
Epidemiology, Biostatistics, & Prevention Institute, University of Zurich, Switzerland
Research project: 'Working conditions and health of child care workers in the city of Zurich'

Research assistant & counseling assistant **Aug 2012 – Dec 2012**
University Hospital Zurich
Research project: "Emotion regulation in PTSD patients"

Research Assistant **Oct 2008 – July 2009**
ETH Zurich, Switzerland
Research project "Psychosocial factors influencing the consumption of drinking water in rural Bangladesh"

PROFESSIONAL EXPERIENCE

Teacher substitute in various schools **2005–2012**
German as a foreign language, various subjects

Caregiver of handicapped children **Aug 2009 – Aug 2010**
NGO for handicapped people, INSIEME GLARUS, Oberurnen, GL

Counseling assistant
Hospital for psychiatry, Crisis center Winterthur, Winterthur, ZH
Internship

Project manager **2008 - 2008**
NGO for refugees, AOZ, Zurich, ZH
Project: "Migration & Education"

Volunteer in a children's home **2003**
Moscow, Russia

PRESENTATIONS

Blöchliger, Bauer (2014). „Work-related reasons for burnout symptoms of child care workers and day care managers. Poster presented at the Swiss Public Mental Health Conference, Third annual convention, Olten, Switzerland.

Sakai, **Blöchliger**, Philipp (2015). „Worthy work, still unlivable wages“, National Institute for the Early Childhood Professional Development, New Orleans, USA.

PUBLICATIONS

Blöchliger, O. R., & Bauer, G. (2016). Demand and job resources in the child care workforce: lead teachers and assistant teachers assessments. *Journal for Early Education and Development*. doi: 10.1080/10409289.2016.1154419.

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